

Service  
Service  
Service



# Service Manual

Horizontal Frequency

55.5-70.6 kHz

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## SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

## Revision List

[illegible]

## Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all AOC Company Equipment. The service procedures recommended by AOC and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. AOC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, AOC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by AOC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, AOC Company will be referred to as AOC.

### WARNING

Use of substitute replacement parts, which do not have the same, specified safety characteristics, may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from AOC. AOC assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

### FOR PRODUCTS CONTAINING LASER:

DANGER-Invisible laser radiation when open AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body is grounded through wristband.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)**

**1. Monitor Specification**

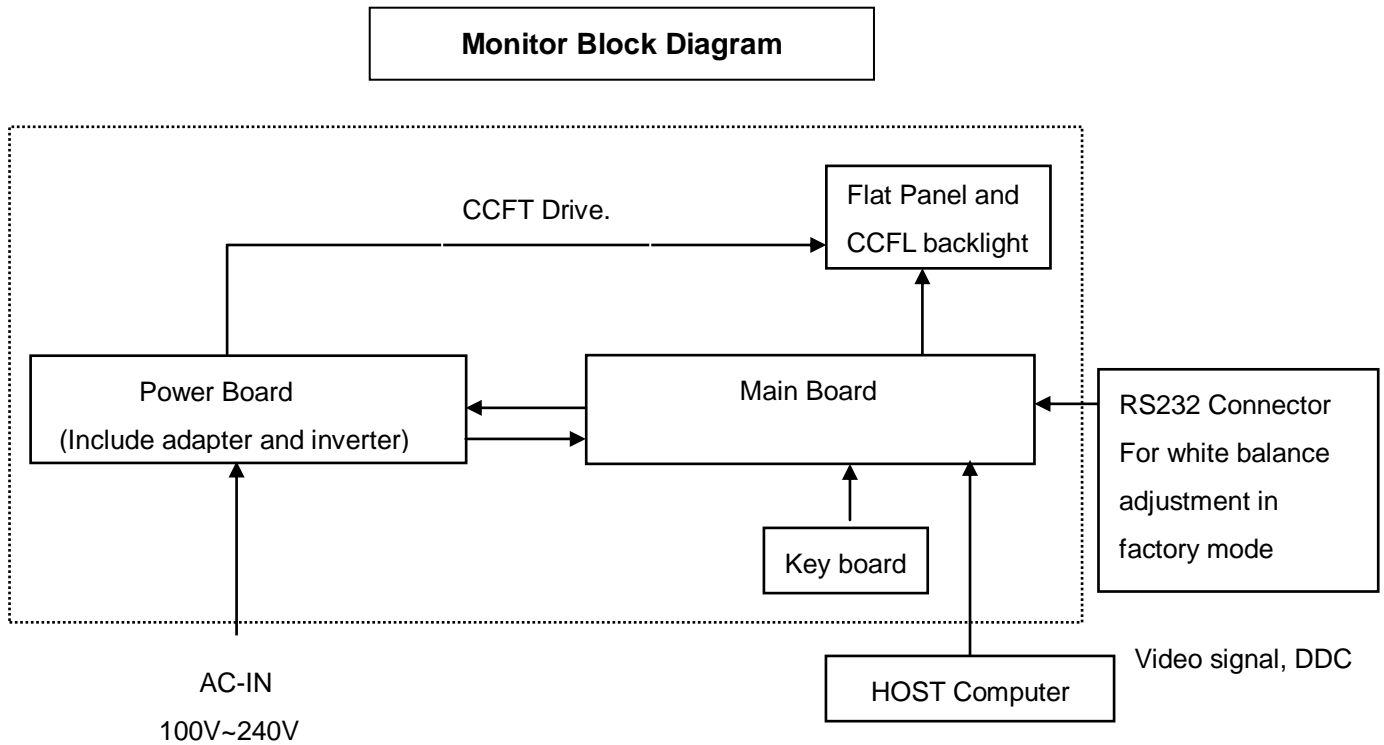
|                          |                               |   |
|--------------------------|-------------------------------|---|
| LCD Panel                | Model number                  | 717Fwy                                      |
|                          | Driving system                | TFT Color LCD                               |
|                          | Viewable Image Size           | 432mm diagonal                              |
|                          | Pixel pitch                   | 0.255mm(H) x 0.255mm(V)                     |
|                          | Video                         | R, G, B Analog interface                    |
|                          | Separate Sync.                | H/V TTL                                     |
|                          | Display Color                 | 16.2M Colors                                |
|                          | Dot Clock                     | 53.25 MHz                                   |
| Resolution               | Horizontal scan range         | 55.5 kHz - 70.6 kHz                         |
|                          | Horizontal scan Size(Maximum) | 367.2mm                                     |
|                          | Vertical scan range           | 56 Hz - 75 Hz                               |
|                          | Vertical scan Size(Maximum)   | 229.5mm                                     |
|                          | Optimal preset resolution     | 1440 x 900 (60 Hz)                          |
|                          | Highest preset resolution     | 1440 x 900 (75 Hz)                          |
|                          | Plug & Play                   | VESA DDC2B/CI                               |
|                          | Input Connector               | D-Sub 15pin                                 |
|                          | Input Video Signal            | Analog: 0.7Vp-p(standard), 75 OHM, Positive |
|                          | Power Source                  | 100~240VAC, 50/60Hz                         |
|                          | Power Consumption             | Active < 37 W                               |
|                          |                               | Standby < 1 W                               |
|                          | Speakers                      | 2 x 1W                                      |
| Physical Characteristics | Connector Type                | 15-pin Mini D-Sub                           |
|                          | Signal Cable Type             | Detachable                                  |
|                          | Dimensions & Weight:          |   |
|                          | Height (with base)            | 337.5 mm                                    |
|                          | Width                         | 400.3 mm                                    |
|                          | Depth                         | 209.9 mm                                    |
|                          | Weight (monitor only)         | 3.2 kg                                      |
|                          | Weight (with packaging)       | 4.2kg                                       |
| Environmental            | Temperature:                  |   |
|                          | Operating                     | 0° to 50°                                   |
|                          | Non-Operating                 | -20°to 60°                                  |
|                          | Humidity:                     |   |

|  |               |                             |
|--|---------------|-----------------------------|
|  | Operating     | 10% to 85% (non-condensing) |
|  | Non-Operating | 5% to 80% (non-condensing)  |
|  | Altitude:     |                             |
|  | Operating     | 0~ 3000m (0~ 10000 ft )     |
|  | Non-Operating | 0~ 5000m (0~ 15000 ft )     |

## 2. LCD Monitor Description

The LCD Monitor will contain main board, power board, key board which house the flat panel control logic, brightness control logic and DDC.

The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.



### 3. Operation Instructions

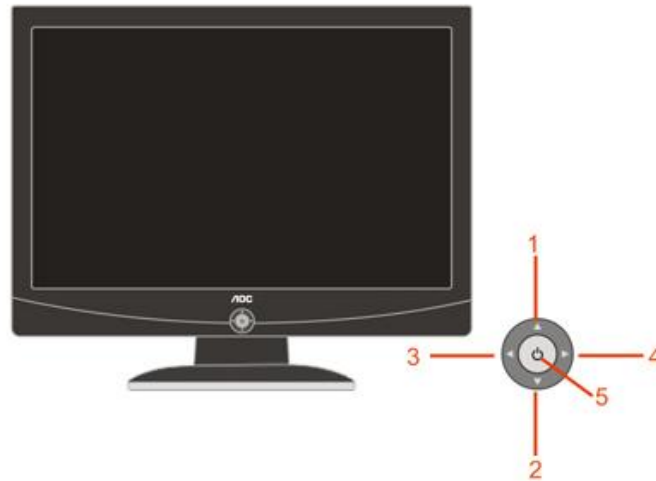
#### 3.1 General Instructions

Press the power button to turn the monitor on or off. The control buttons are located at front panel of the monitor.

By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor, the power indicator will light up.

#### 3.2 Control Buttons

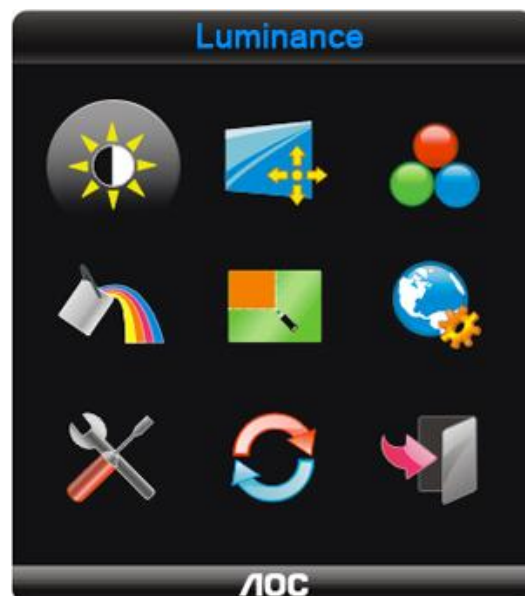


- 1 Eco mode / Up
- 2 Auto / Down
- 3 Volume / Left
- 4 DCR / Right
- 5 Menu / Power

### 3.3 Adjusting the Picture











#### OSD Settings





- Press the Menu (Power) button to activate the OSD window. Press left, right, up, down button to navigate through the functions. Once the desired function is highlighted, press the Menu (Power) button to activate sub-menu.
- In sub-menu, Press up, down button to navigate through the functions. Once the desired function is highlighted, press ◀, ▶ button to change the setting. Press Menu (Power) button to return to superior menu.
- If you want to adjust any other function, repeat steps 1-2.
- To exit OSD windows, select "exit" icon on main OSD, then press the Menu (Power) button.
- OSD Lock Function: To lock the OSD, press and hold the Left button while the monitor is off and then press power button to turn the monitor on. To un-lock the OSD - press and hold the Left button while the monitor is off and then press power button to turn the monitor on.
- Eco Mode hot key (▲): Press the Eco key continuously to select the Eco mode of brightness when there is no OSD (Eco mode hot key may not be available in all models).
- Volume adjustment hot key: When there is no OSD, press Volume (◀) to active volume adjustment bar, press ▶ or ◀ to adjust volume (Only for the models with speakers).
- DCR hot key (▶): Press DCR key continuously to active or disable DCR function when there is no OSD.
- Auto configure hot key: When the OSD is closed, press Auto/Source button continuously about 3 second to do auto configure.
- Press the Power button continuously about 2 second to turn off the monitor.








## OSD functions

|   | Luminance   | Adjust Range   | Description  |
|---|-------------|--|--|
|   | Brightness  | 0-100  | Backlight Adjustment                                 |
|   | Contrast    | 0-100  | Contrast from Digital-register.                      |
|   | Eco mode    | Standard  | Standard Mode  |
|   |             | Text      | Text Mode  |
|   |             | Internet  | Internet Mode  |
|   |             | Game      | Game Mode  |
|   |             | Movie   | Movie Mode   |
|   |             | Sports  | Sports Mode  |
|   | Gamma       | Gamma1   | Adjust to Gamma1                                     |
|   |             | Gamma2   | Adjust to Gamma 2                                    |
|   |             | Gamma3   | Adjust to Gamma 3                                    |
|   | DCR         | Off     | Disable dynamic contrast ratio                       |
|   |             | On      | Enable dynamic contrast ratio                        |
|  | Image Setup |  |  |
|   | Clock       | 0-100  | Adjust picture Clock to reduce Vertical-Line noise.  |
|   | Phase       | 0-100  | Adjust Picture Phase to reduce Horizontal-Line noise |
|   | H. Position | 0-100  | Adjust the horizontal position of the                |

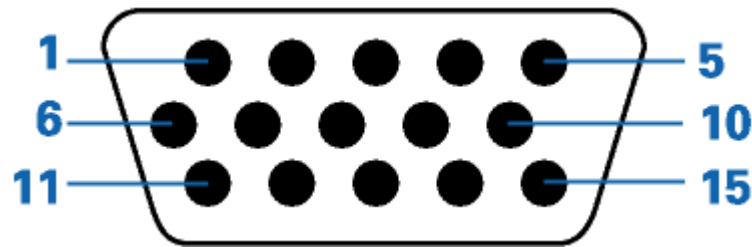
|   |               |             |  |
|---|---------------|-------------|--|
|   |               |             | picture.                                     |
|   | V. Position   | 0-100       | Adjust the vertical position of the picture. |
|    | Color Temp.   |             |  |
|   | Warm          | 6500K       | Recall Warm Color Temperature from EEPROM.   |
|   | Normal        | 7300K       | Recall Normal Color Temperature from EEPROM. |
|   | Cool          | 9300K       | Recall Cool Color Temperature from EEPROM.   |
|   | sRGB          |             | Recall SRGB Color Temperature from EEPROM.   |
|   | User          | Red         | Red Gain from Digital-register               |
|   |               | Green       | Green Gain Digital-register.                 |
|   |               | Blue        | Blue Gain from Digital-register              |
|  | Color Boost   |             |  |
|   | Full Enhance  | on or off   | Disable or Enable Full Enhance Mode          |
|   | Nature Skin   | on or off   | Disable or Enable Nature Skin Mode           |
|   | Green Field   | on or off   | Disable or Enable Green Field Mode           |
|   | Sky-blue      | on or off   | Disable or Enable Sky-blue Mode              |
|   | AutoDetect    | on or off   | Disable or Enable AutoDetect Mode            |
|   | Demo          | on or off   | Disable or Enable Demo                       |
|  | Picture Boost |             |  |
|   | Frame Size    | 14-100      | Adjust Frame Size                            |
|   | Brightness    | 0-100       | Adjust Frame Brightness                      |
|   | Contrast      | 0-100       | Adjust Frame Contrast                        |
|   | Hue           | 0-100       | Adjust Frame Hue                             |
|   | Saturation    | 0-100       | Adjust Frame Saturation                      |
|   | Position      | H. position | Adjust Frame horizontal Position             |
|   |               | V. position | Adjust Frame vertical Position               |
|   | Bright Frame  | on or off   | Disable or Enable Bright Frame               |
|  | OSD Setup     |             |  |
|   | H. Position   | 0-100       | Adjust the horizontal position of OSD        |

|  |              |             |   |
|--|--------------|-------------|---|
|  | V. Position  | 0-100       | Adjust the vertical position of OSD                         |
|  | Timeout      | 5-120       | Adjust the OSD Timeout                                      |
|  | Transparence | 0-100       | Adjust the transparence of OSD                              |
|  | Language     |             | Select the OSD language                                     |
|   | Extra        |             |   |
|  | Input Select | Auto        | Select to Auto Detect input signal                          |
|  | Auto Config  | yes or no   | Auto adjust the picture to default                          |
|  | Image Ratio  | wide or 4:3 | Select wide or 4:3 format for display                       |
|  | DDC-CI       | yes or no   | Turn ON/OFF DDC-CI Support                                  |
|  | Information  |             | Show the information of the main image and sub-image source |
|   | Reset        |             |   |
|  | Reset        | yes or no   | Reset the menu to default                                   |
|  | Exit         |             |   |
|  | Exit         |             | Exit the main OSD   |

## 4. Input/Output Specification

### 4.1 Input Signal Connector

D-Sub mini 15pin Connector



| Pin Number | 15-Pin Side of the Signal Cable |
|------------|---------------------------------|
| 1          | Video-Red                       |
| 2          | Video-Green                     |
| 3          | Video-Blue                      |
| 4          | N.C.                            |
| 5          | Detect Cable                    |
| 6          | GND-R                           |
| 7          | GND-G                           |
| 8          | GND-B                           |
| 9          | +5V                             |
| 10         | Ground                          |
| 11         | N.C.                            |
| 12         | DDC-Serial data                 |
| 13         | H-sync                          |
| 14         | V-sync                          |
| 15         | DDC-Serial clock                |

### 4.2 Factory Preset Display Modes

| Stand    | Resolution | Horizontal     | Vertical      |
|----------|------------|----------------|---------------|
|          |            | Frequency(KHz) | Frequency(Hz) |
| Dos-mode | 720×400    | 31.47          | 70            |
| VGA      | 640×480    | 31.47          | 60            |
| VGA      | 640×480    | 37.5           | 75            |
| SVGA     | 800×600    | 37.879         | 60            |
| SVGA     | 800×600    | 46.875         | 75            |
| XGA      | 1024×768   | 48.363         | 60            |
| XGA      | 1024×768   | 56.476         | 70            |
| XGA      | 1024×768   | 60.023         | 75            |
| WSXGA    | 1440×900   | 55.9           | 60            |
| WSXGA    | 1440×900   | 70.6           | 75            |

### 4.3. Panel Specification

#### 4.3.1 General Feature

Hannstar Display model HSD170MGW1-B00 is a color active matrix thin film transistor (TFT) liquid crystal display (LCD) that uses amorphous silicon TFT as a switching device. This model is composed of a TFT LCD panel, a driving circuit and a back light system. This TFT LCD has a 17.0 inch diagonally measured active display area with XGA resolution (900 vertical by 1440 horizontal pixel array) and can display up to 16.2M(6-bit + FRC) colors.

| Item              |              | Specification                   | Unit   |
|-------------------|--------------|---------------------------------|--------|
| Outline Dimension |              | 389.2 x 254.5 x 11.5 (Typ)      | mm     |
| Display area      |              | 367.2 (H) x 229.5 (V)           | mm     |
| Number of Pixel   |              | 1440(H) x 900(V)                | pixels |
| Pixel pitch       |              | 0.255(H) x 0.255(V)             | mm     |
| Pixel arrangement |              | RGB Vertical stripe             |        |
| Display color     |              | 16.2M (6-bit+FRC)               | colors |
| Color Gamut       |              | 63% NTSC                        |        |
| Display mode      |              | Normally white                  |        |
| Surface treatment |              | Antiglare (3H)                  |        |
| Weight            |              | 1365                            | g      |
| Back-light        |              | 2-CCFLs, Top & bottom edge side |        |
| Input signal      |              | 2-ch LVDS                       |        |
| Power Consumption | Logic System | 3.0(TYP.)                       | W      |
|                   | B/L System   | 11.76(TYP.)                     | W      |

## 4.3.2 Optical Characteristics

| Item                         |         | Symbol           | Condition                       | Min.  | Typ.  | Max.  | Unit              |
|------------------------------|---------|------------------|---------------------------------|-------|-------|-------|-------------------|
| Contrast                     |         | CR               | Θ =0<br>viewing angle<br>-<br>- | 500   | 600   | -     | msec              |
| Response time                | Rising  | T <sub>R</sub>   |                                 | -     | 3     | 5     |                   |
|                              | Falling | T <sub>F</sub>   |                                 | -     | 5     | 7     |                   |
| White luminance (Center)     |         | Y <sub>L</sub>   |                                 | 200   | 250   | -     | cd/m <sup>2</sup> |
| Color chromaticity (CIE1931) | Red     | R <sub>x</sub>   |                                 | 0.621 | 0.651 | 0.681 |                   |
|                              |         | R <sub>y</sub>   |                                 | 0.302 | 0.332 | 0.362 |                   |
|                              | Green   | G <sub>x</sub>   |                                 | 0.288 | 0.318 | 0.348 |                   |
|                              |         | G <sub>y</sub>   |                                 | 0.539 | 0.569 | 0.599 |                   |
|                              | Blue    | B <sub>x</sub>   |                                 | 0.117 | 0.147 | 0.177 |                   |
|                              |         | B <sub>y</sub>   |                                 | 0.061 | 0.091 | 0.121 |                   |
|                              | White   | W <sub>x</sub>   | 0.283                           | 0.313 | 0.343 |       |                   |
|                              |         | W <sub>y</sub>   | 0.299                           | 0.329 | 0.359 |       |                   |
| Viewing angle                | Hor.    | Θ <sub>L</sub>   | CR>10                           | 70    | 80    | -     |                   |
|                              |         | Θ <sub>R</sub>   |                                 | 70    | 80    | -     |                   |
|                              | Ver.    | Θ <sub>D</sub>   |                                 | 75    | 85    | -     |                   |
|                              |         | Θ <sub>U</sub>   |                                 | 55    | 65    | -     |                   |
| Viewing angle                | Hor.    | Θ <sub>L</sub>   | CR>5                            | 75    | 85    | -     |                   |
|                              |         | Θ <sub>R</sub>   |                                 | 75    | 85    | -     |                   |
|                              | Ver.    | Θ <sub>D</sub>   |                                 | 75    | 85    | -     |                   |
|                              |         | Θ <sub>U</sub>   |                                 | 75    | 85    | -     |                   |
| Brightness uniformity        |         | B <sub>UNI</sub> | Θ =0                            | 70    | 75    | -     | %                 |

**4.3.3 Electrical Characteristics****TFT Module**

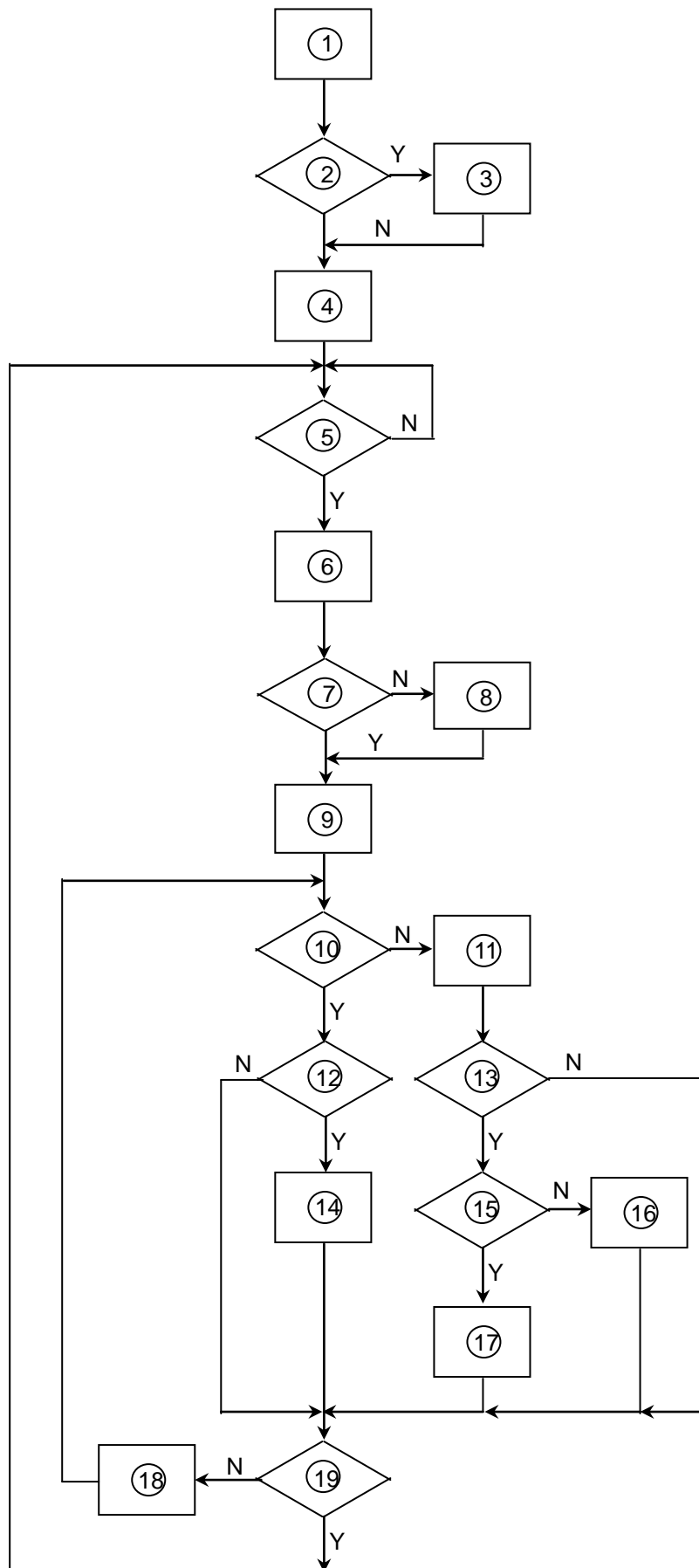
| Item                    |         | Symbol            | Min.   | Typ.   | Max.   | Unit |
|-------------------------|---------|-------------------|--------|--------|--------|------|
| Voltage of power supply |         | V <sub>DD</sub>   | 4.5    | 5.0    | 5.5    | V    |
| Current of power supply | White   | I <sub>DD0</sub>  | 310    | 410    | 510    | mA   |
|                         | V-Color | I <sub>DD1</sub>  | 380    | 480    | 580    | mA   |
|                         | Mosaic  | I <sub>DD2</sub>  | 510    | 610    | 710    | mA   |
| Vsync frequency         |         | f <sub>V</sub>    | 56     | 60     | 75     | Hz   |
| Hsync frequency         |         | f <sub>H</sub>    | 55.469 | 55.935 | 70.635 | KHz  |
| Frequency               |         | f <sub>DCLK</sub> | 44.375 | 53.25  | 68.375 | MHz  |
| Input rush current      |         | I <sub>Rush</sub> | -      | -      | 3      | A    |

**Back-light**

| Item                     | Symbol | Min.   | Typ. | Max.  | Unit    |
|--------------------------|--------|--------|------|-------|---------|
| Lamp current             | IL     | 3.0    | 7.5  | 8.0   | mA(rms) |
| Lamp voltage             | VL     | 589.5  | 655  | 769.5 | V(rms)  |
| Frequency                | fL     | 40     | 50   | 60    | KHz     |
| Operating lamp life time | Hr     | 40,000 | -    | -     | Hour    |
| Startup voltage          | Vs     | 1200   | -    | -     | V(rms)  |
|                          |        | 1400   |      |       |         |

## 5. Block Diagram

### 5.1 Software Flow Chart



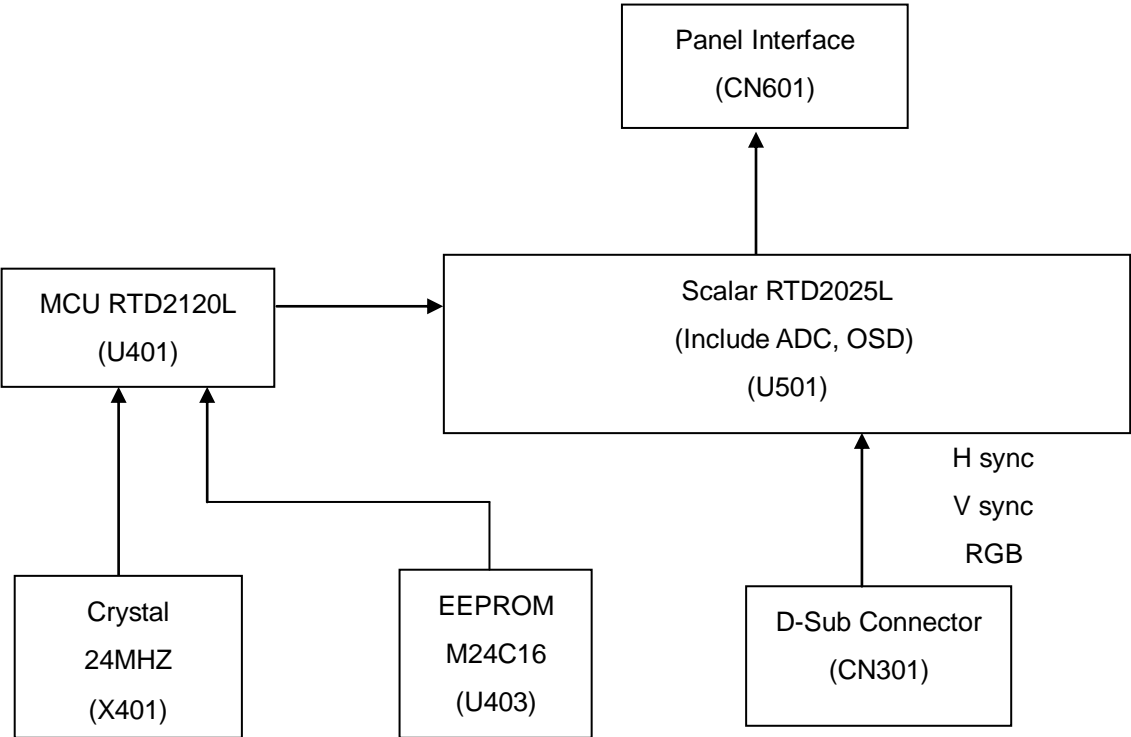


REMARK:

|  |
|--|
| 1) MCU initializes.  |
| 2) Is the EEprom blank?  |
| 3) Program the EEprom by default values.   |
| 4) Get the PWM value of brightness from EEprom.  |
| 5) Is the power key pressed?   |
| 6) Clear all global flags.   |
| 7) Are the AUTO and SELECT keys pressed?   |
| 8) Enter factory mode.   |
| 9) Save the power key status into EEprom.<br>Turn on the LED and set it to green color.<br>Scalar initializes. |
| 10) In standby mode?   |
| 11) Update the lifetime of back light.   |
| 12) Check the analog port, are they're any signals coming?   |
| 13) Does the scalar send out an interrupt request?   |
| 14) Wake up the scalar.  |
| 15) Are there any signals coming from analog port?   |
| 16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears. |
| 17) Program the scalar to be able to show the coming mode.   |
| 18) Process the OSD display.   |
| 19) Read the keyboard. Is the power key pressed?   |

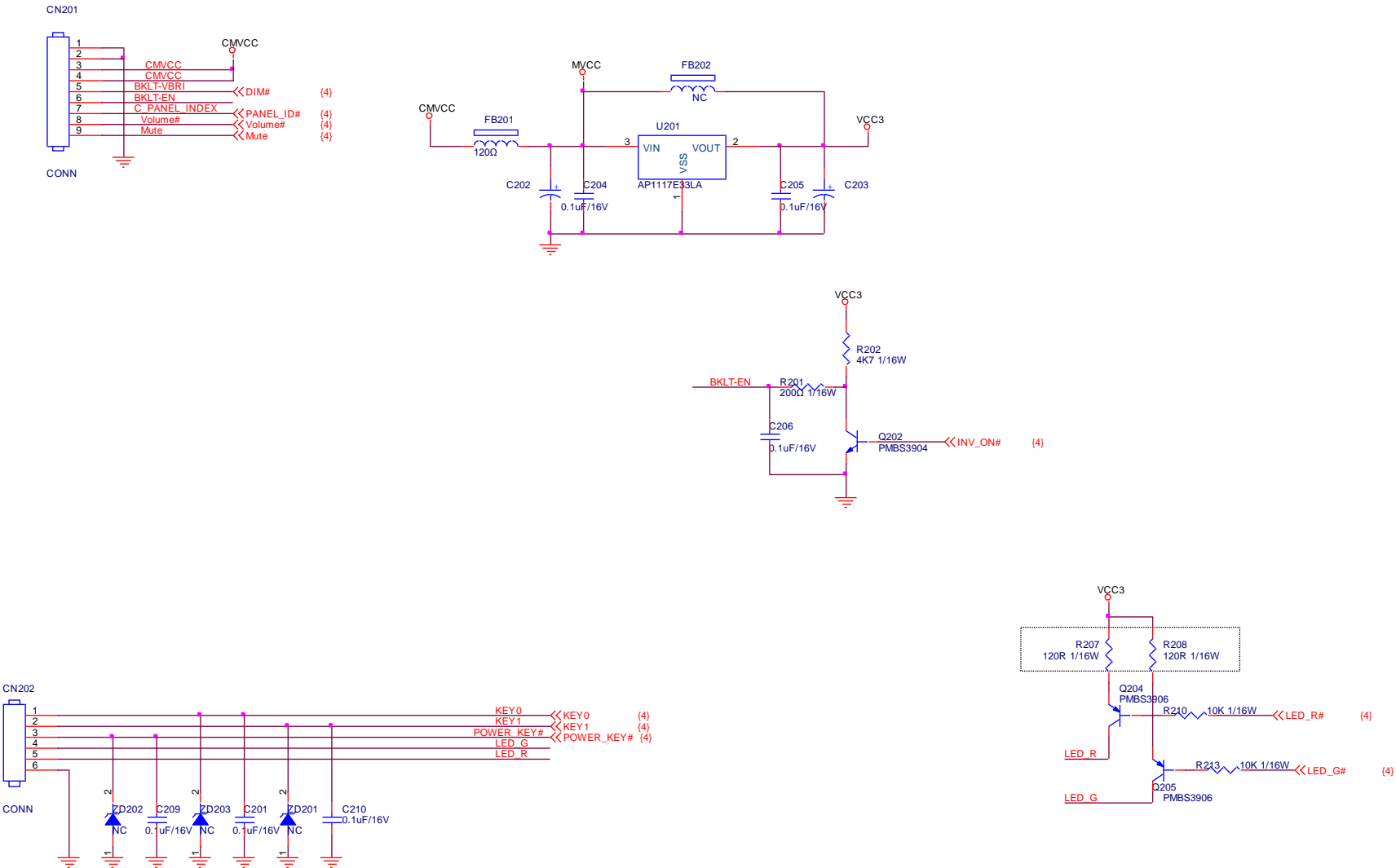
5.2 Electrical Block Diagram

Main Board

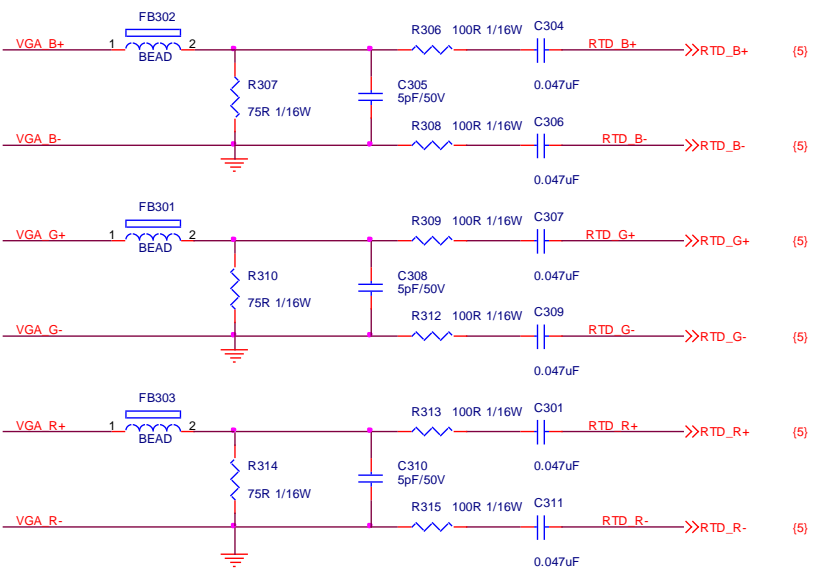
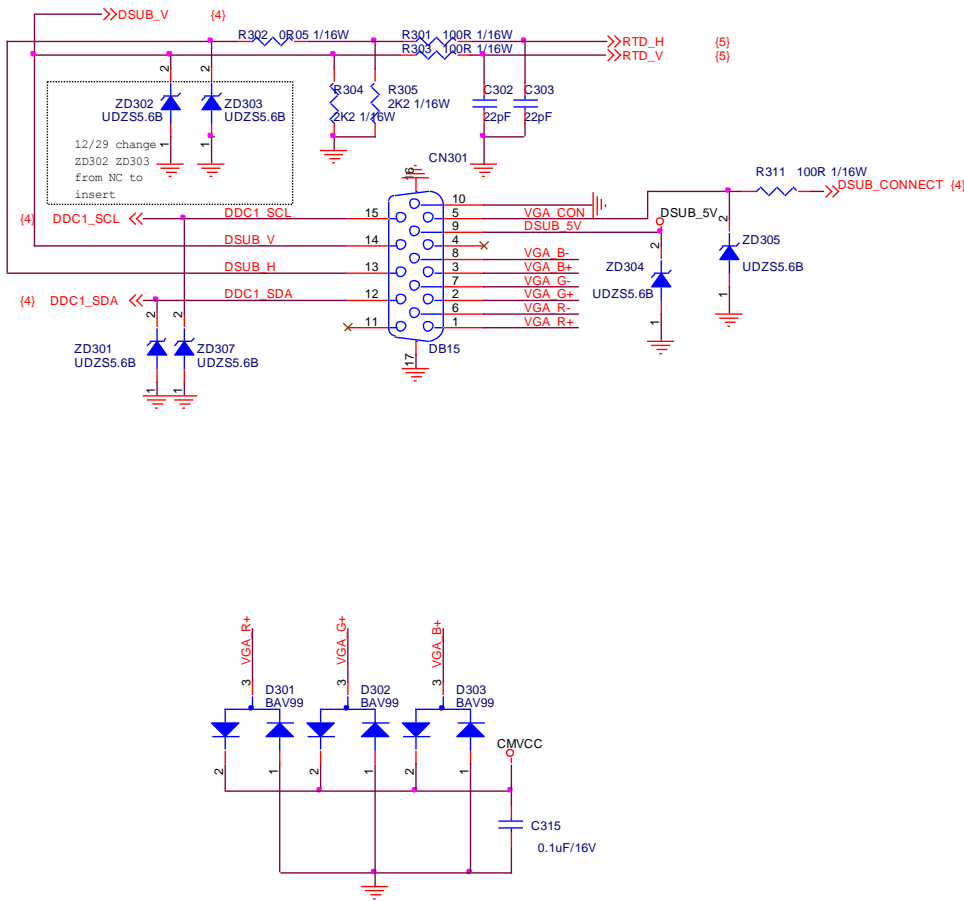


6. Schematic

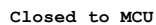
6.1 Main Board



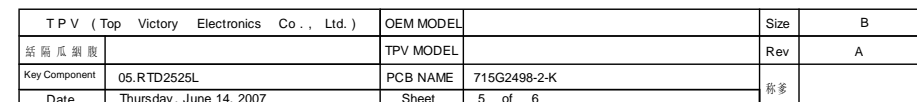
|   |                         |          |              |   |
|---|-------------------------|----------|--------------|---|
| TPV (Top Victory Electronics Co., Ltd.) | OEM MODEL               |          | Size         | B |
| TPV MODEL                               |                         |          | Rev          | A |
| Key Component                           | 02.POWER                | PCB NAME | 715G2498-2-K |   |
| Date                                    | Thursday, June 14, 2007 | Sheet    | 2 of 6       |   |

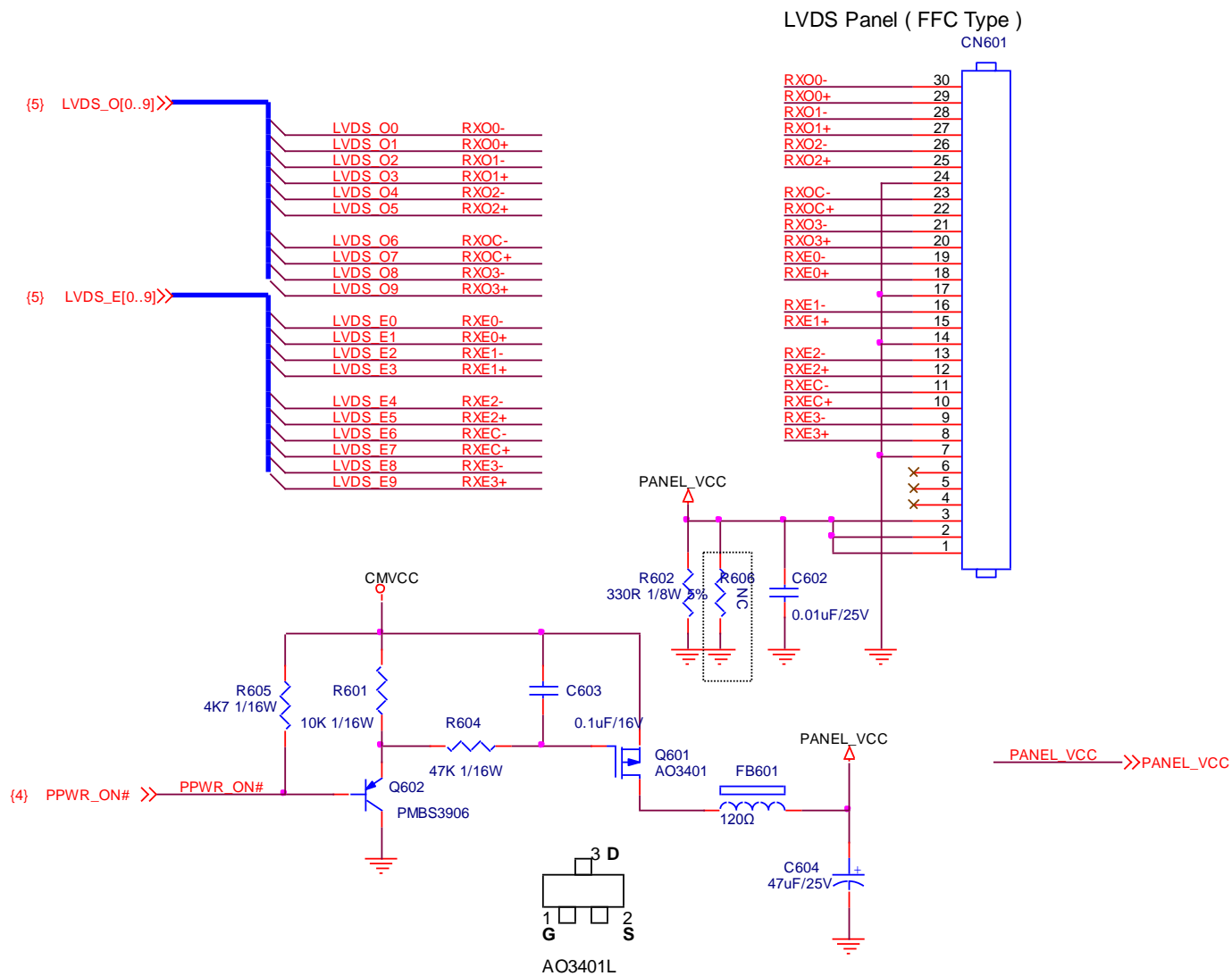


|   |                         |          |              |    |
|---|-------------------------|----------|--------------|----|
| TPV (Top Victory Electronics Co., Ltd.) | OEM MODEL               |          | Size         | B  |
| 結構瓜網膜                                   | TPV MODEL               |          | Rev          | A  |
| Key Component                           | 03.input                | PCB NAME | 715G2498-2-K | 称爹 |
| Date                                    | Thursday, June 14, 2007 | Sheet    | 3 of 6       |    |

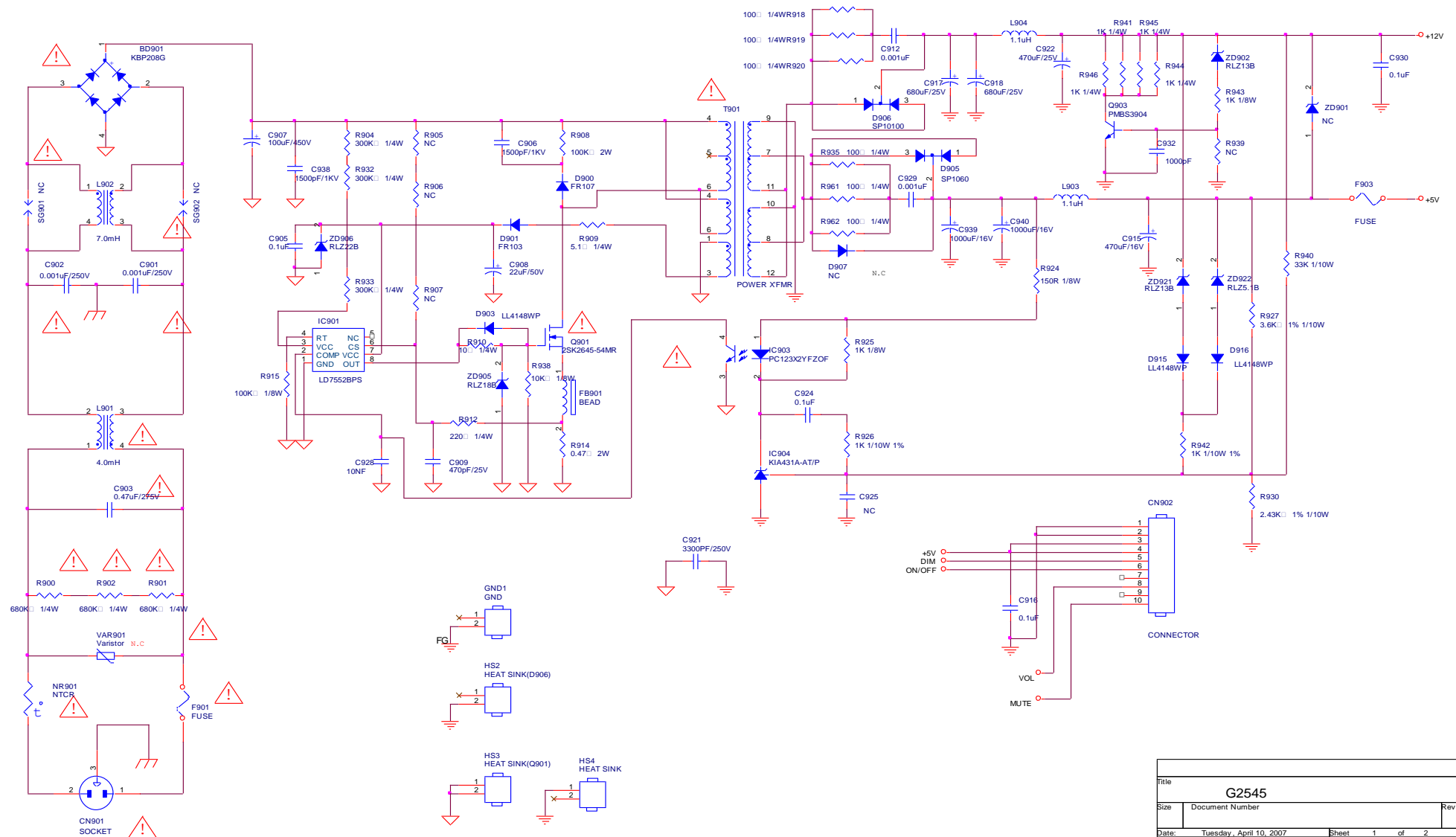


|   |                         |           |              |      |   |
|---|-------------------------|-----------|--------------|------|---|
| TPV (Top Victory Electronics Co., Ltd.) |                         | OEM MODEL |              | Size | B |
| 结网瓜细胞                                   |                         | TPV MODEL |              | Rev  | A |
| Key Component                           | 04.MCU/RTD2120L         | PCB NAME  | 715G2498-2-K | 称参   |   |
| Date                                    | Thursday, June 14, 2007 | Sheet     | 4 of 6       |      |   |

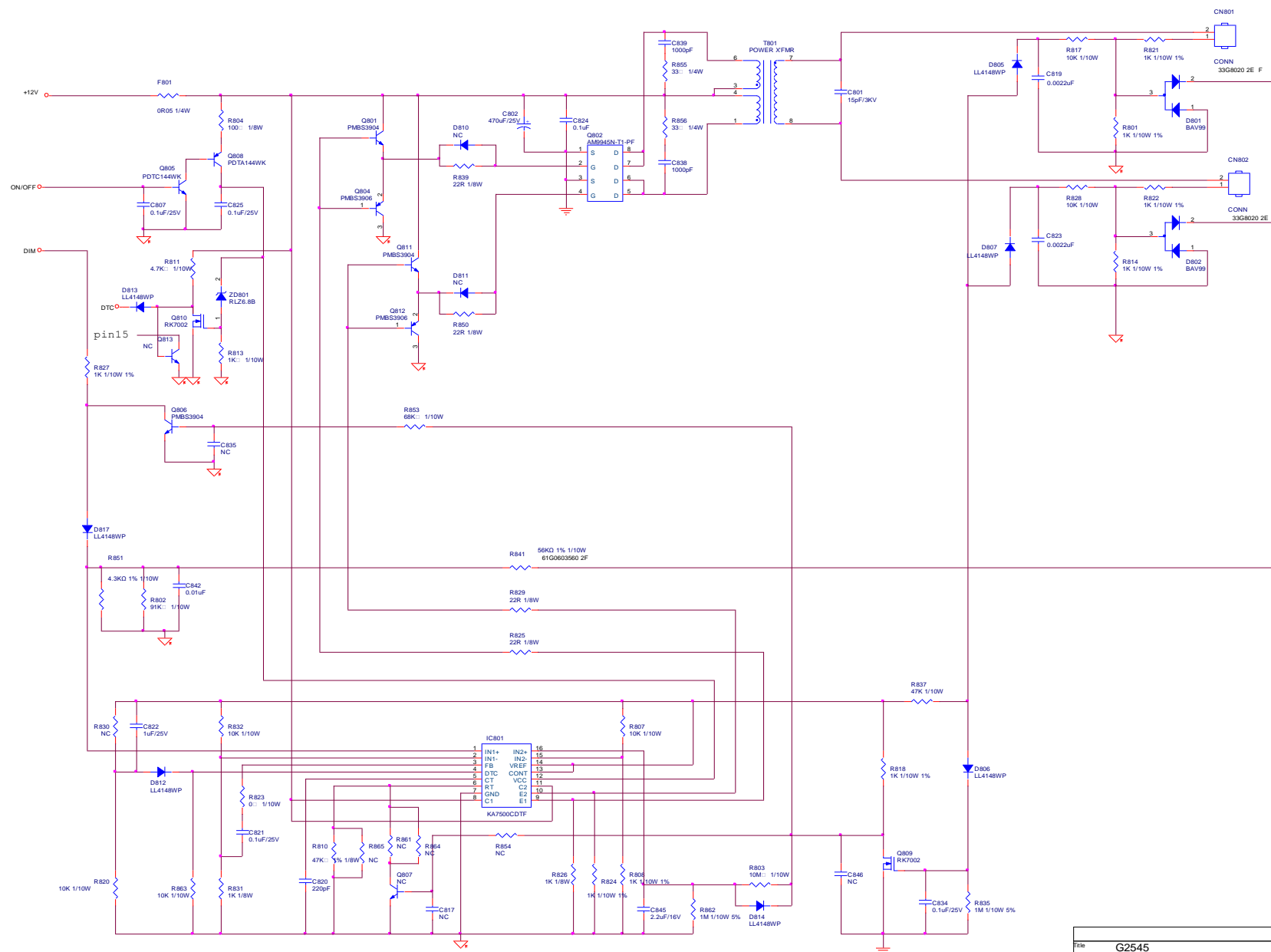




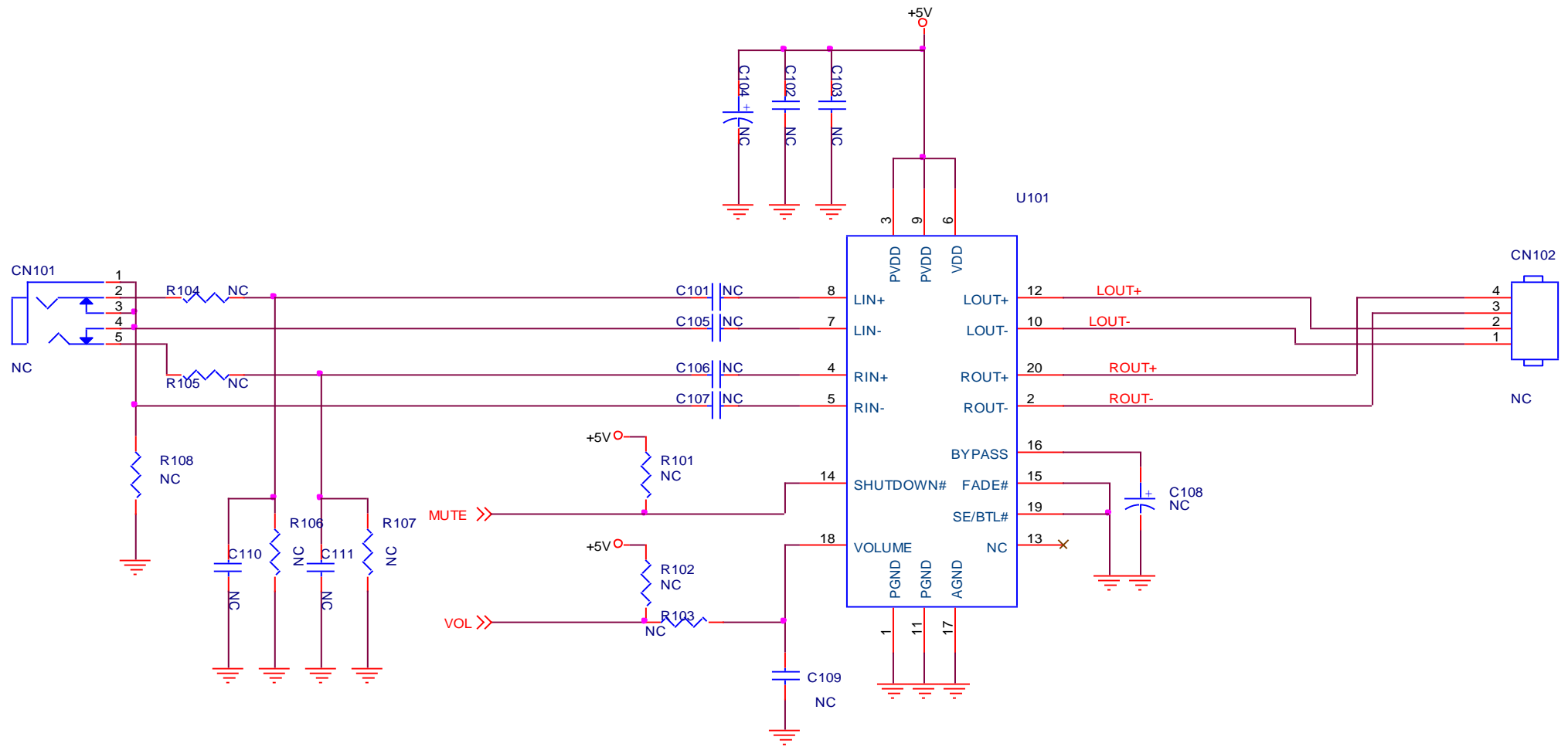
|  |                         |          |              |
|--|-------------------------|----------|--------------|
| TPV ( Top Victory Electronics Co. , Ltd. ) | OEM MODEL               | Size     | A            |
| 結隔瓜網腹                                      | TPV MODEL               | Rev      | A            |
| Key Component                              | 06.OUTPUT               | PCB NAME | 715G2498-2-K |
| Date                                       | Thursday, June 14, 2007 | Sheet    | 6 of 6       |





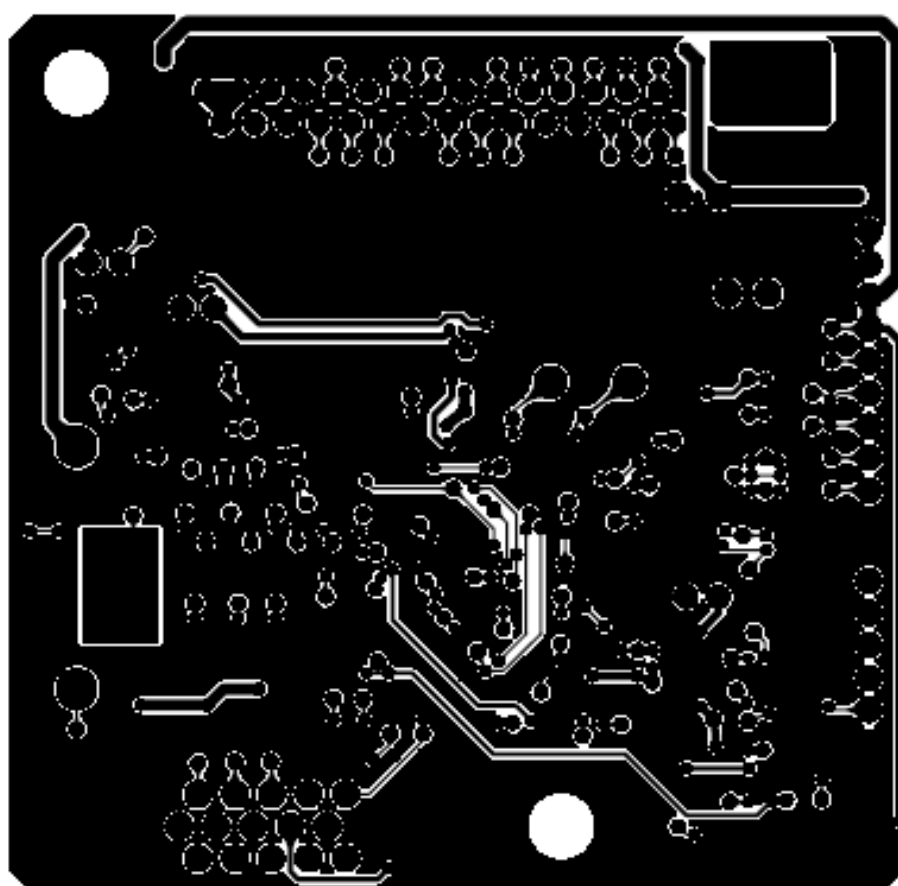
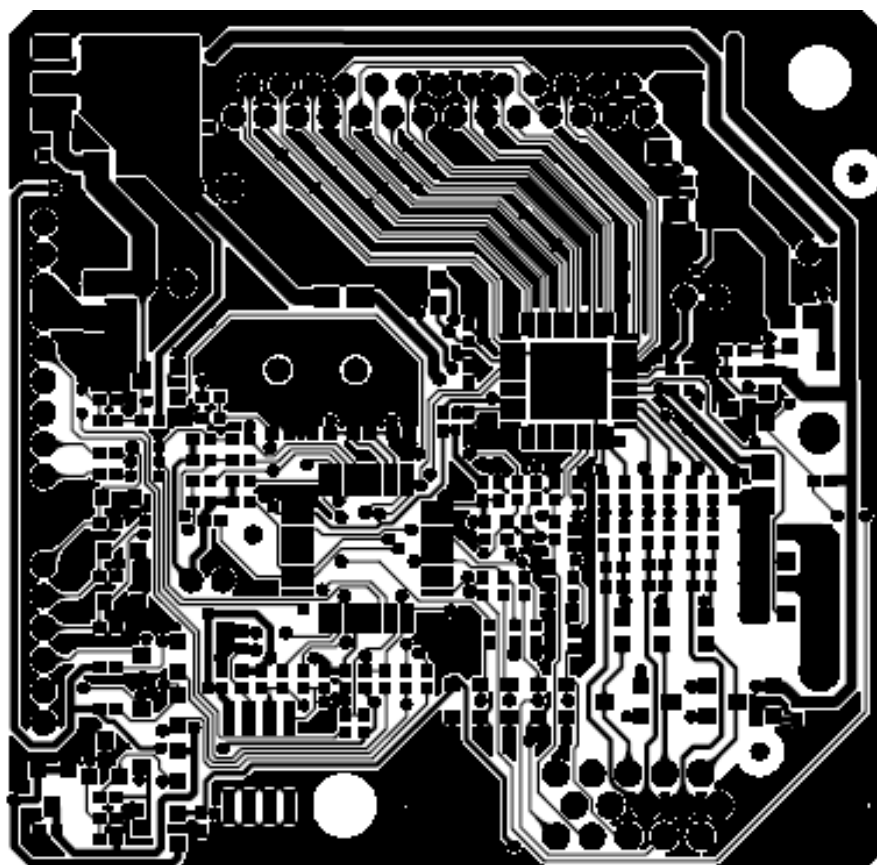


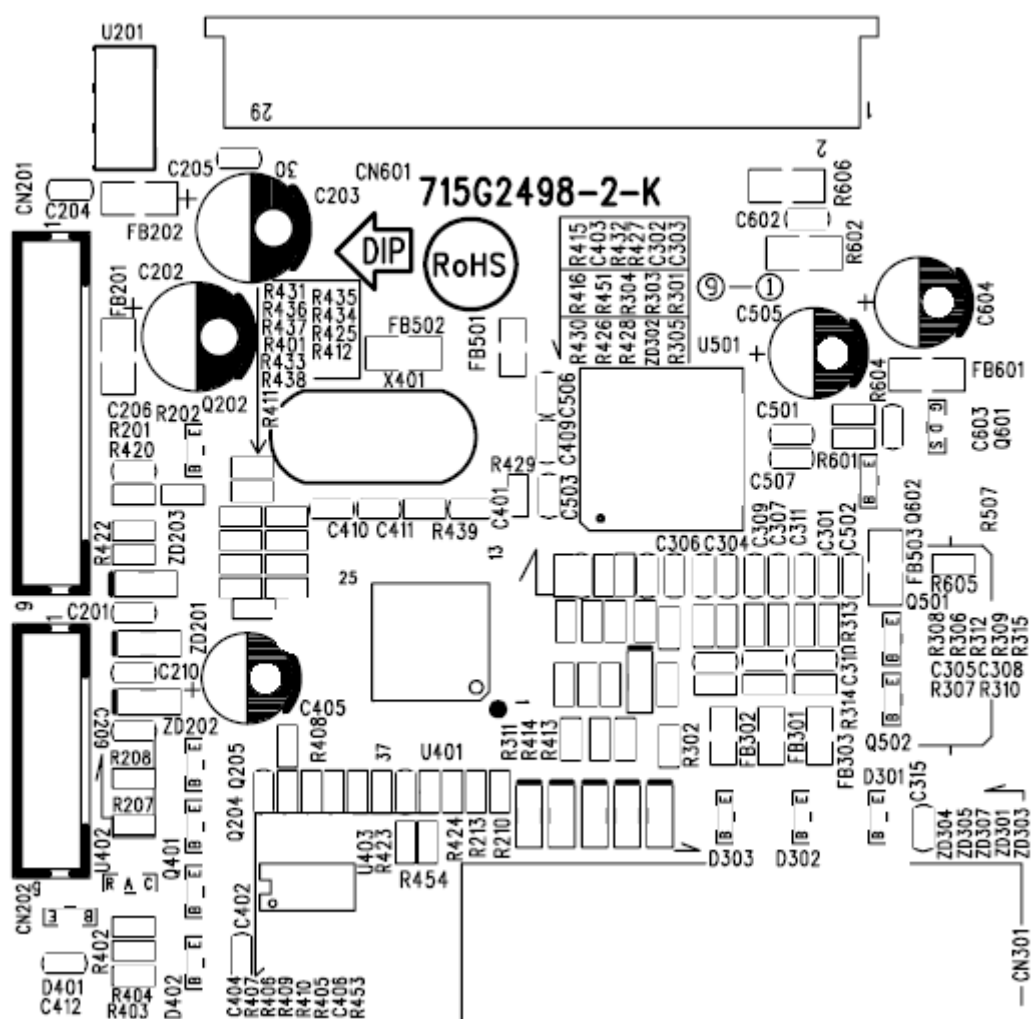
|       |                         |              |
|-------|-------------------------|--------------|
| Title |                         |              |
| G2545 |                         |              |
| Size  | Document Number         | Rev          |
|       | Custom 1.0              |              |
| Date  | Tuesday, April 10, 2007 | Sheet 2 of 2 |



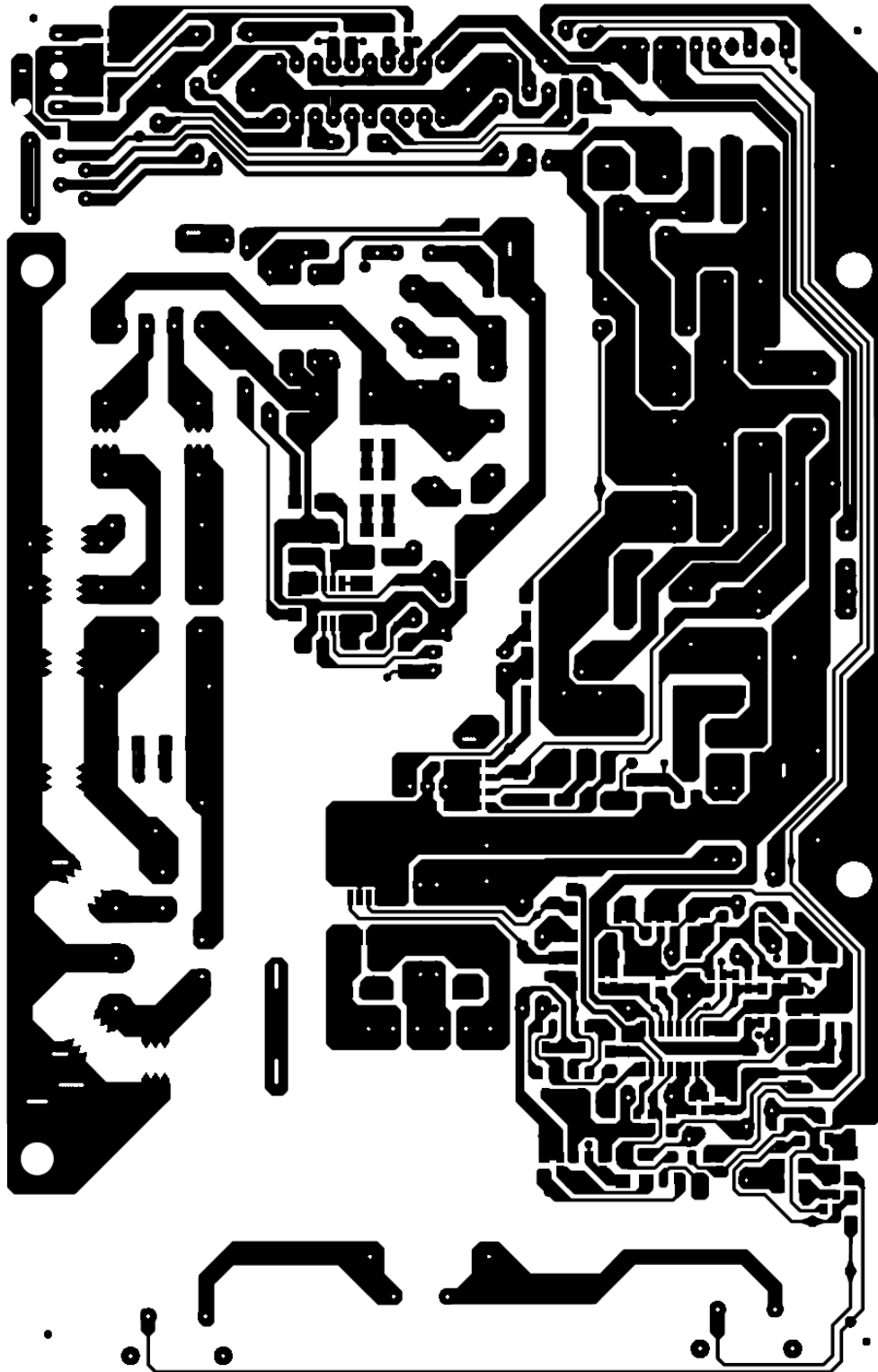
## 7. PCB Layout

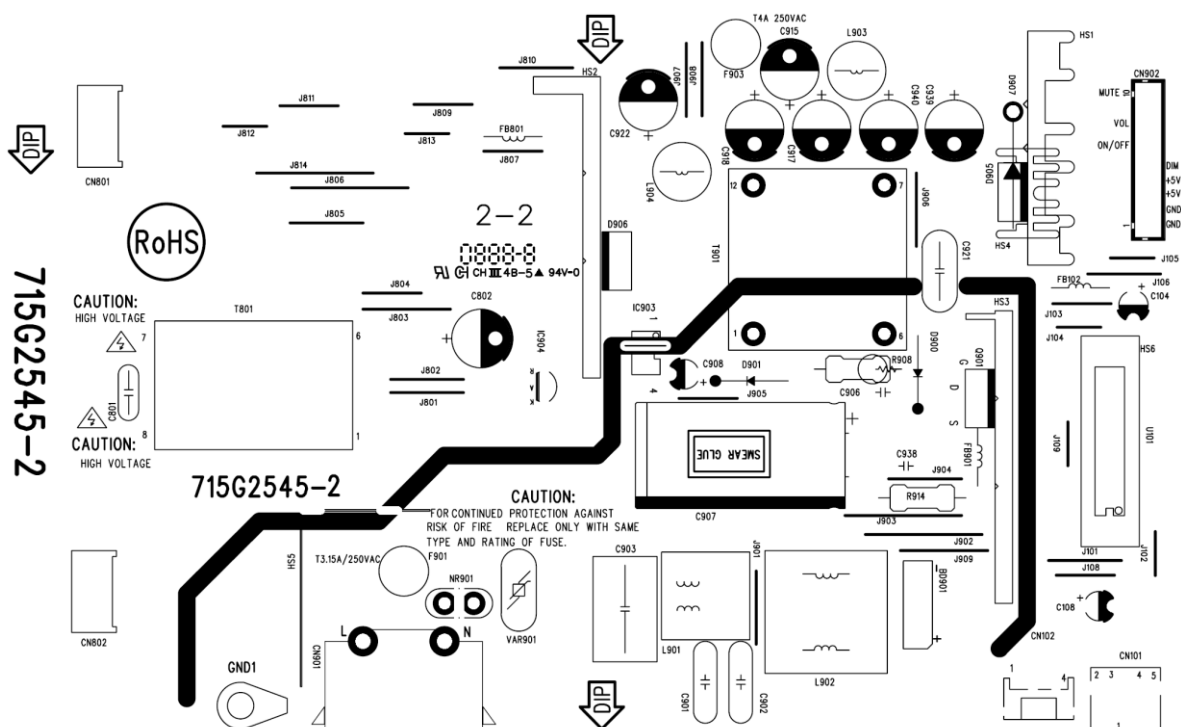
### 7.1 Main Board





7.2 Power Board





## **8. Maintainability**

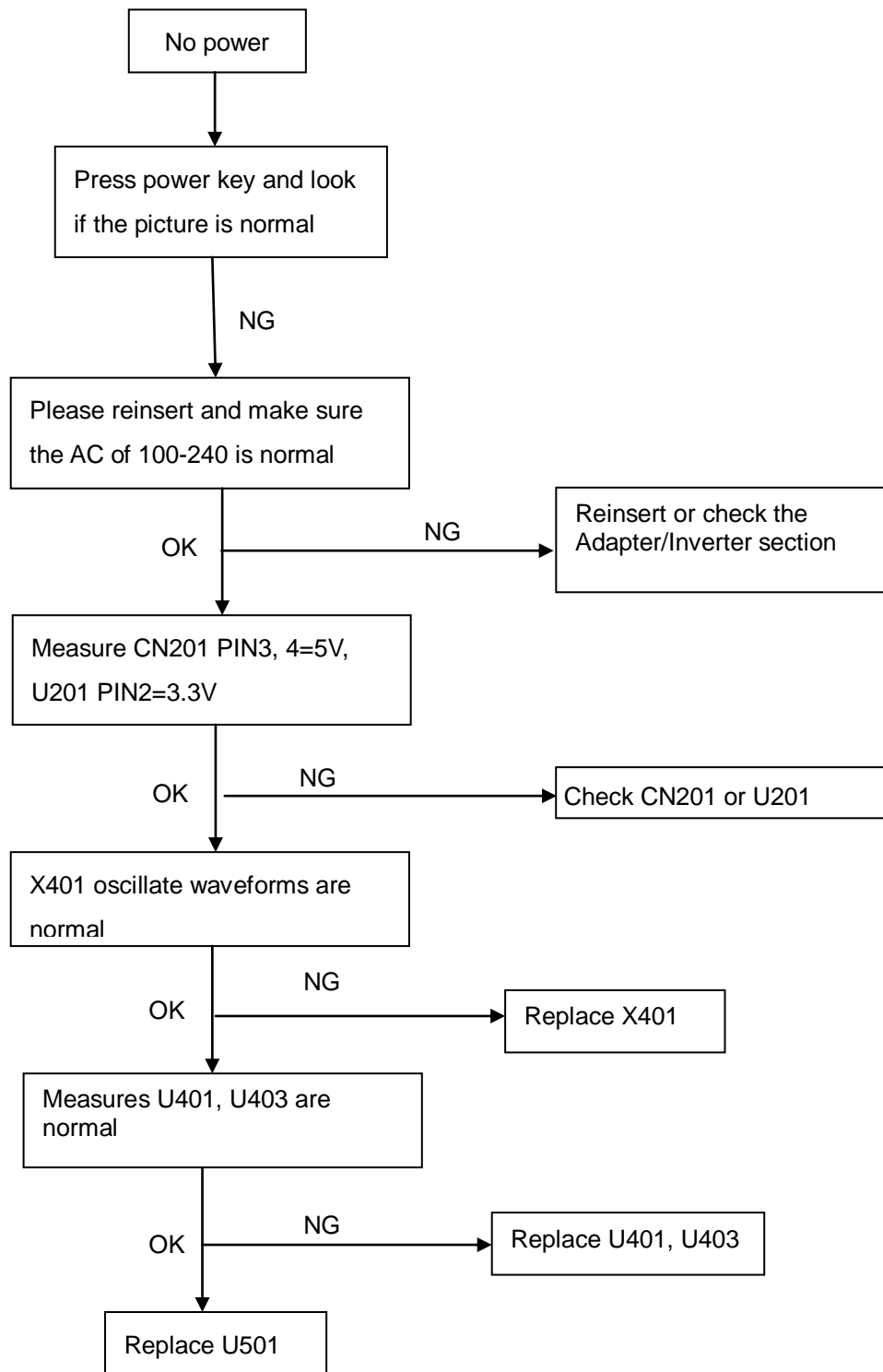
### **8.1 Equipments and Tools Requirement**

1. Multi-meter.
2. Oscilloscope.
3. Pattern Generator.
4. DDC Tool with and Compatible Computer.
5. Alignment Tool.
6. LCD Color Analyzer.
7. Service Manual.
8. User Manual.

## 8.2 Trouble Shooting

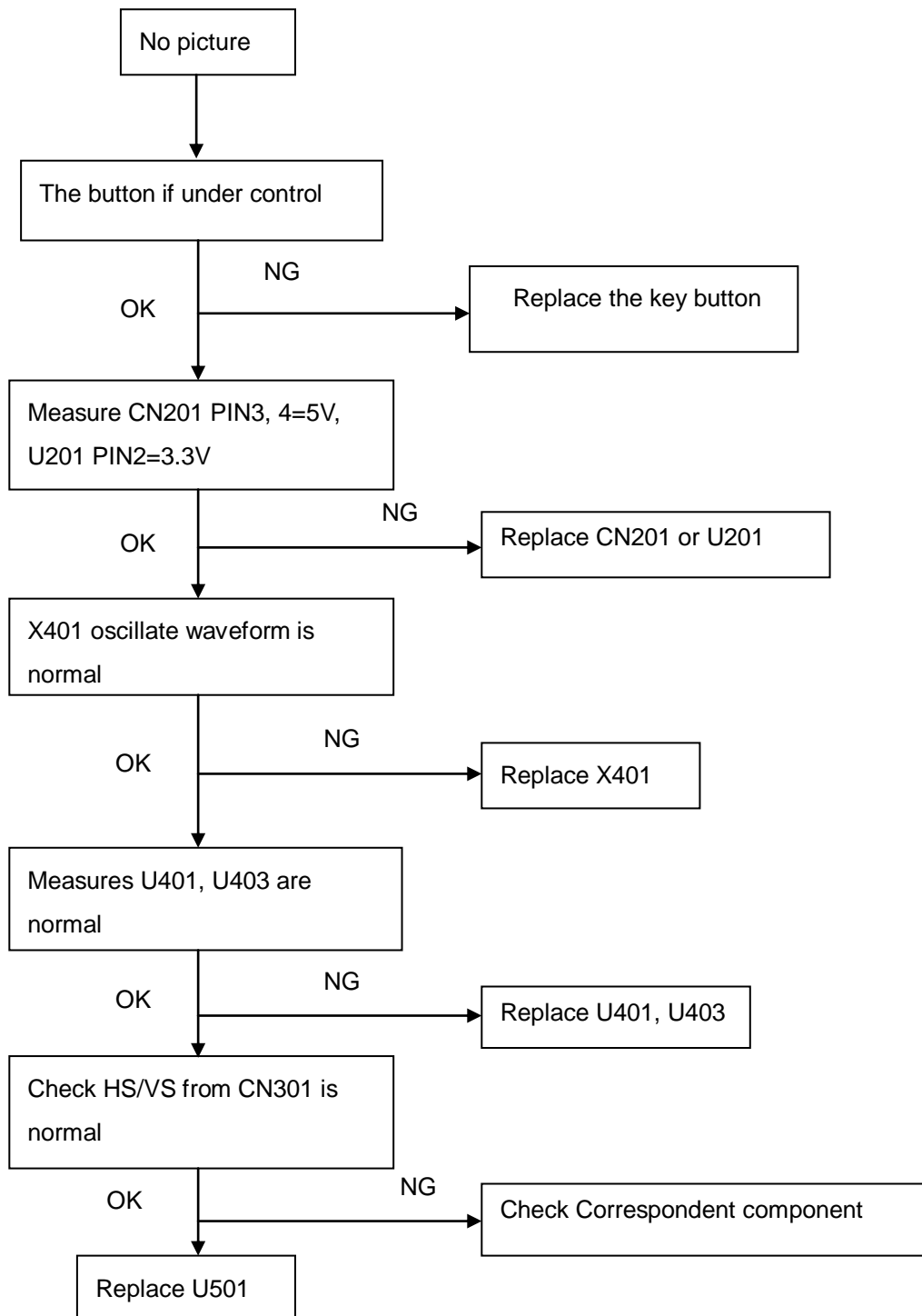
### 8.2.1 Main Board

No power

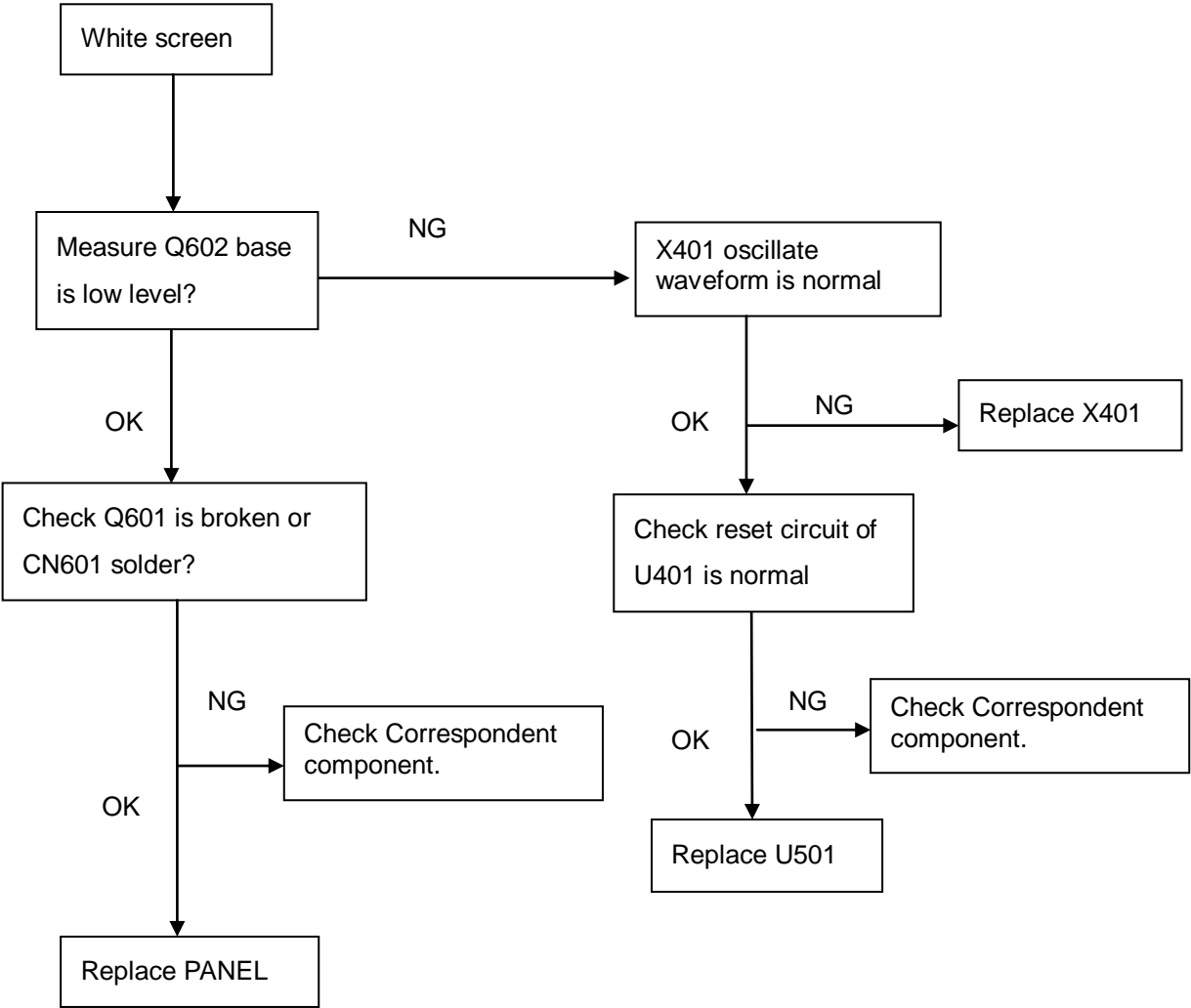


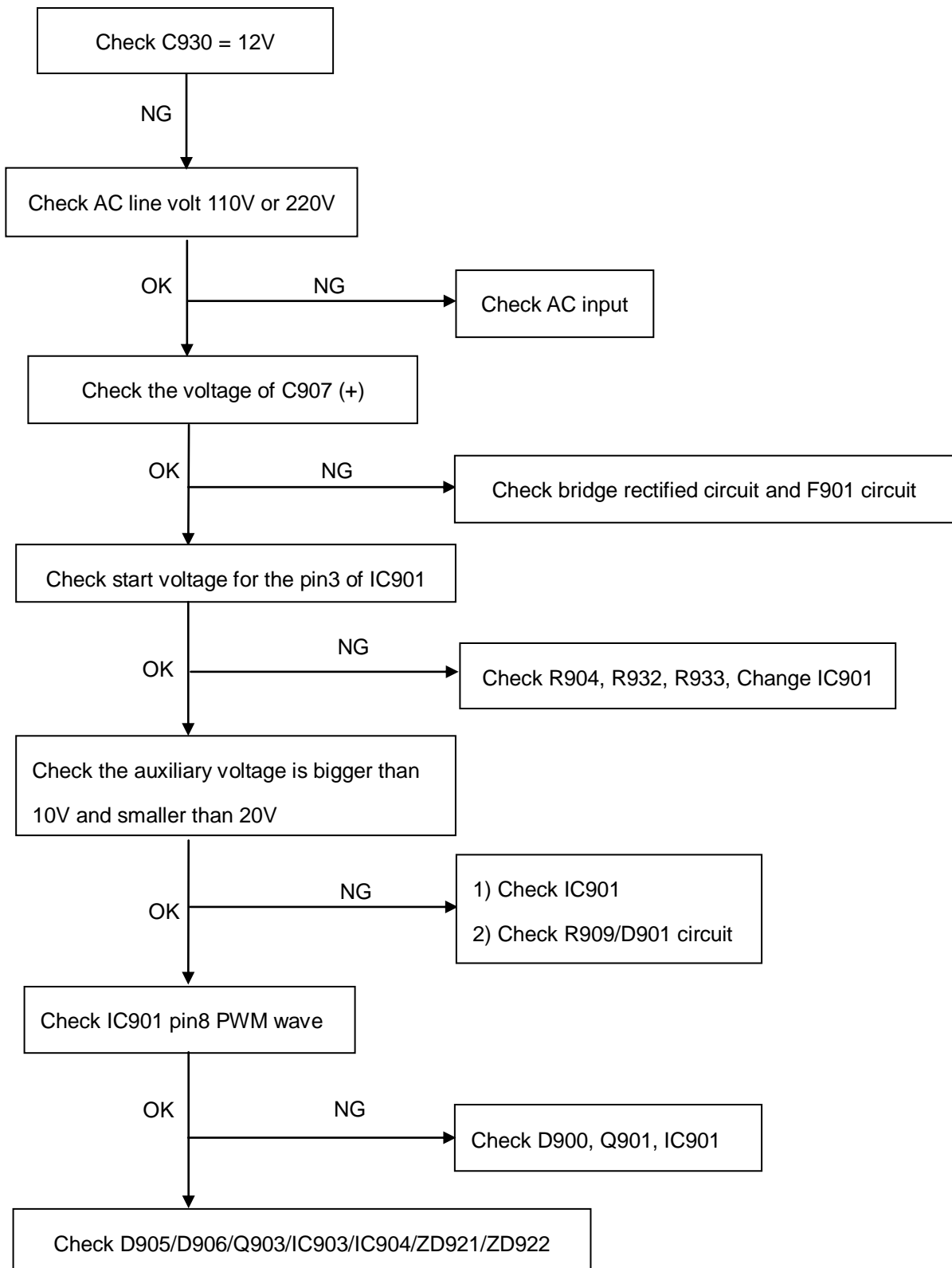


## No picture (LED orange)

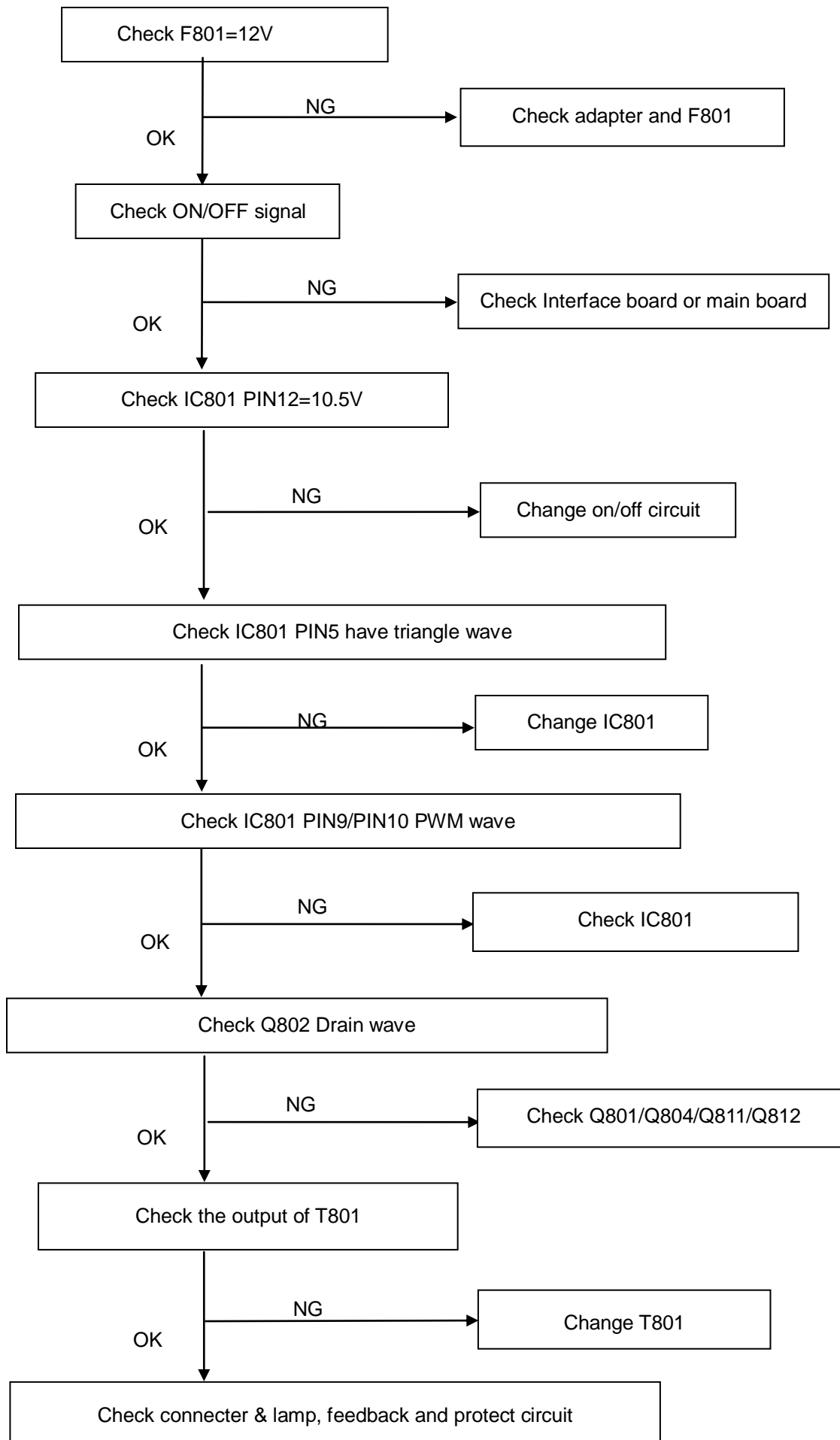


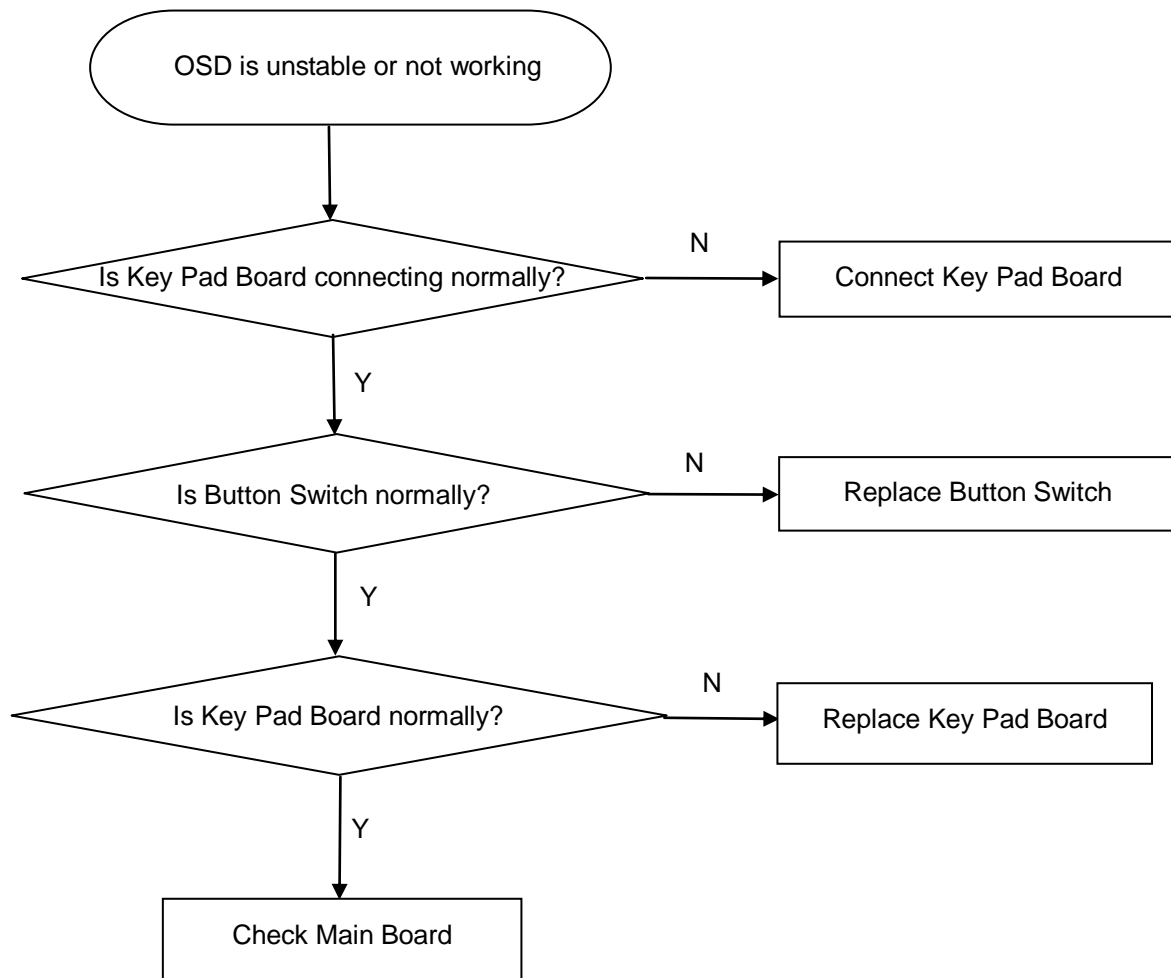
White screen



**8.2.2 Power Board****1) No power**

## 2.) No Backlight



**8.2.3 Key Board**

## 9. White- Balance, Luminance Adjustment

Approximately 30 minutes should be allowed for warm up before proceeding white balance adjustment.

Before started adjust white balance , please set the Chroma-7120 MEM Channel 3 to Warm (6500K) color, MEM Channel 4 to Normal (7300K) color, MEM Channel 9 to Cool (9300K) color , and MEM Channel 10 to sRGB color ( our Warm color parameter is  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$ ; Normal color parameter is  $x = 301 \pm 20$ ,  $y = 317 \pm 20$ ,  $Y = 180 \text{cd/m}^2$ ; Cool color parameter is  $x = 283 \pm 20$ ,  $y = 297 \pm 20$ ,  $Y = 180 \text{cd/m}^2$ ; sRGB color parameter is  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$ )

How to setting MEM channel you can reference to chroma 7120 user guide or simple use “ SC” key and

“ NEXT” Key to modify xyY value and use “ID” key to modify the TEXT description Following is the procedure to do white-balance adjust .

### 2. Setting the color temp. you want

#### A. MEM.CHANNEL 3 (Warm color):

Warm color temp. parameter is  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$

#### B. MEM.CHANNEL 4 (Normal color):

Normal color temp. parameter is  $x = 301 \pm 20$ ,  $y = 317 \pm 20$ ,  $Y = 180 \text{cd/m}^2$

#### C. MEM.CHANNEL 9 (Cool color):

Cool color temp. parameter is  $x = 283 \pm 20$ ,  $y = 297 \pm 20$ ,  $Y = 180 \text{cd/m}^2$

#### D. MEM.CHANNEL 10 (sRGB color):

sRGB color temp. parameter is  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$

### 3. Into Factory mode of 717Fwy:

Press the MENU button, pull out the power cord, and then plug the power cord. Then the factory OSD will be at the left top of the panel.

### 4. Bias adjustment:

Set the **Contrast**  to 50; Adjust the **Brightness**  to 90.

### 5. Gain adjustment:

Move cursor to “-F-” and press MENU key

#### A. Adjust Warm (6500K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 3 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$
4. Adjust the RED on factory window until chroma 7120 indicator reached the value  $R = 100$
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value  $G = 100$
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value  $B = 100$
7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance  $= 100 \pm 2$

#### B. Adjust Normal (7300K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 4 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show  $x = 301 \pm 20$ ,  $y = 317 \pm 20$ ,  $Y = 180 \text{cd/m}^2$
4. Adjust the RED on factory window until chroma 7120 indicator reached the value  $R = 100$

5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value  $G=100$
  6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value  $B=100$
  7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance  $=100\pm2$
- C. Adjust Cool (9300K) color-temperature
1. Switch the Chroma-7120 to **RGB-Mode** (with press "MODE" button)
  2. Switch the MEM. Channel to Channel 9 (with up or down arrow on chroma 7120)
  3. The LCD-indicator on chroma 7120 will show  $x = 283 \pm 20$ ,  $y = 297 \pm 20$ ,  $Y = 180 \text{cd/m}^2$
  4. Adjust the RED on factory window until chroma 7120 indicator reached the value  $R=100$
  5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value  $G=100$
  6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value  $B=100$
  7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance  $=100\pm2$
- D. Adjust sRGB color-temperature
1. Switch the chroma-7120 to **RGB-Mode** (with press "MODE" button)
  2. Switch the MEM.channel to Channel 10 (with up or down arrow on chroma 7120)
  3. The LCD-indicator on chroma 7120 will show  $x = 313 \pm 20$ ,  $y = 329 \pm 20$ ,  $Y = 180 \text{cd/m}^2$
  4. Adjust the RED on factory window until chroma 7120 indicator reached the value  $R=100$
  5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value  $G=100$
  6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value  $B=100$
  7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance  $=100\pm2$
- E. Turn the Power-button off to quit from factory mode.





**11. BOM List**

T77HRDNQBWA15N

| Location | Part No.           | Description                        |
|----------|--------------------|------------------------------------|
|          | 026G 800504 3      | BARCODE LABEL                      |
|          | 040G 154501 1      | HI-POT GND LABEL                   |
|          | 040G 581 26646     | EANCODE LABEL                      |
|          | 040G 58162461A     | EPA LABEL                          |
|          | 044G3231 15        | EVA WASHER                         |
|          | 044G6000 4E        | CARTON                             |
|          | 045G 77 3          | PE PACKING                         |
|          | 045G 77500         | BARCODE RIBBON                     |
|          | 045G 77501         | BARCODE RIBBON                     |
|          | 051G6001 2         | DESICCANT                          |
|          | 052G 1150 C        | INSULATING TAPE                    |
|          | 052G 1185          | MIDDLE TAPE                        |
|          | 052G 1185 1        | BIG TAPE                           |
|          | 052G 1186          | SMALL TAPE                         |
|          | 052G 1191          | GLASS CLOTH                        |
|          | 052G 1192          | GLASS CLOTH                        |
|          | 052G 1211 A        | 165MINIUM TAPE                     |
|          | 052G 1211527       | ALUMINUM FOIL TAPE                 |
|          | 052G 2191 A        | PAPER TAPE                         |
|          | 052G6019 1         | INSULATING TAPE                    |
|          | 089G 17356C554     | AUDIO CABLE                        |
|          | 089G 725CAA DB     | D-SUB                              |
|          | 089G402A15NIS1     | POWER CORD                         |
|          | 095G8014 6D 41     | HARNESS 6P-6P 170MM                |
|          | 0M1G 130 5120      | SCREW                              |
|          | 0M1G1730 6120      | SCREW,42-D020523                   |
|          | 0M1G1740 10 47 CR3 | SCREW                              |
|          | 0Q1G 330 8120      | SCREW 3X8MM 42A9930017/ 42-D002093 |
|          | 705GQ834068        | BEZEL ASS'Y(17")                   |
|          | 705GQ834070        | BASE/STAND ASS'Y(17")              |
|          | A15G0207 K 6 CKD   | MAINFRAME                          |
|          | A33G0173ABJ 1L     | CABLE CLAMP                        |
|          | A34G0433ABJA7B     | REAR COVER 17                      |
|          | CBPC7SRDA1Q4       | MAIN BOARD                         |
|          | KEPC7QK7           | KEY BOARD                          |
|          | PWPC721HE4         | POWER BOARD                        |
|          | Q07G 8 2 2         | COMPOUND PALLET                    |

|        |                    |                                      |
|--------|--------------------|--------------------------------------|
|        | Q20G6036 1 30      | FUNCTION-KEY-COAT                    |
|        | Q20G6046 1 30      | POWER_KEY                            |
|        | Q36G 600517        | DUSTER CLOTH                         |
|        | Q40G 17N61586A     | 717FWY POP LABEL                     |
|        | Q40G000260811A     | BASIC LABEL                          |
|        | Q40G000262448A     | POP LABEL                            |
|        | Q40G000262452A     | DEEVO STICK                          |
|        | Q41G7800615B55     | SA SERVICE CENTER                    |
|        | Q41G780A61554A     | 717FWY QSG                           |
|        | Q45G 76 28CK2 R    | PE BAG                               |
|        | Q45G 88606 16 R    | PE BAG FOR CLAMP                     |
|        | Q45G 88606CK2 R    | PE BAG FOR BASE                      |
|        | Q45G 88609122      | EPE BAG FOR MONITOR                  |
|        | Q70G700661524A     | CD MANUAL                            |
|        | 750GLH70GWB12N     | PANEL HSD170MGW1 B00 NJ HSD          |
| E08907 | S89G179T30N9A      | FFC CABLE                            |
|        | 040G 581 26646     | EANCODE LABEL                        |
|        | Q44G600019S 2A GP  | CARTON                               |
|        | 040G 581 26646     | EANCODE LABEL                        |
|        | 045G 88525 B       | PE BAG                               |
|        | Q44G600017L 2A     | CARTON                               |
|        | 040G 581 26646     | EANCODE LABEL                        |
|        | Q44G600020L 1A     | CARTON                               |
| E078   | 078G 322 7 Y       | SPK 8 OHM 1.5W 260MM 43X18MM SUNLINK |
|        | 0Q1G1030 8120      | SCREW                                |
|        | Q34G0302AEVA1X     | BEZEL L17WA-7KH12                    |
|        | A34G0289ABJ 1B     | STAND                                |
|        | A37G0031 3CKD      | HINGE                                |
|        | AM1G1740 10 47 CR3 | SCREW                                |
|        | Q12G6600 8         | PORON FOOT                           |
|        | Q34G0243AEV 1X     | BASE 7S9                             |
|        | Q34G0244 X2 1B CKD | BASE-RING 7S10                       |
|        | 040G 45762412B     | CBPC LABEL                           |
| CN202  | 033G3802 6         | WAFER                                |
| CN201  | 033G3802 9         | WAFER 9P RIGHT ANELE PITCH           |
| CN601  | 033G801930F CH JS  | CONNECTOR                            |
| R507   | 061G152M339 64     | CHIPR 3.3 OHM +-5% 2W                |
| C405   | 067G 3151007KV     | ELCAP 10UF M 50V 105℃ KINGNICH       |
| C202   | 067G 3151014KV     | EC 105℃ CAP 100UF M 25V              |
| C203   | 067G 3151014KV     | EC 105℃ CAP 100UF M 25V              |

|       |                  |                                     |
|-------|------------------|-------------------------------------|
| C505  | 067G 3152207KV   | ELCAP 22UF M 50V 105°C KING NICH    |
| C604  | 067G 3154704KV   | ELCAP 47UF M 25V 105°C KINGNICH     |
| CN301 | 088G 35315F H    | D-SUB 15PIN                         |
| X401  | 093G 22 45 H     | 24MHZ/30PF/49US                     |
|       | SMTC7SRDA1Q4     | MAIN BOARD FOR SMT                  |
| CN001 | 033G3802 6H      | WAFER 6P RIGHT ANGLE PITCH 2.0      |
| SW005 | 077G610D 1 WB    | TACT SW+LED                         |
|       | SMTKEPC7QK7      | KEY BOARD FOR SMT                   |
|       | 040G 45762412B   | CBPC LABEL                          |
| GND1  | 009G6005 1       | GROUND TERMINAL                     |
| CN102 | 033G3802 4 DH JF | WAFER                               |
| CN801 | 033G8020 2E F    | CONNECTOR                           |
| CN802 | 033G8020 2E F    | CONNECTOR                           |
| IC903 | 056G 139 7 1     | IC EL817MA M-TYPE                   |
| U101  | 056G 616 37      | IC TPA6021A4NE4 2W*2 PDIP-20        |
| NR901 | 061G 58080 WT    | 8 OHM NCT                           |
| R914  | 061G152M47852T   | RST MOFR 0.47 OHM +-5% 2WS          |
| C903  | 063G 10747410V   | 0.47UF 275VAC ARCO                  |
| C938  | 065G 1K152 1T    | 1.5NF/1KV Z5F+-10%                  |
| C801  | 065G 6J1506ET    | 15PF 5% SL 6KV                      |
| C902  | 065G305M1022BP   | Y2 1000PF M 250VAC Y5P              |
| C901  | 065G305M1022BP   | Y2 1000PF M 250VAC Y5P              |
| C921  | 065G306M3322BP   | 3300PF 20%                          |
| C907  | 067G 40Z10115K   | CAP 105°C 100UF M 450V              |
| C922  | 067G215D4714KV   | E.C 105°C CAP 470UF M 25V ED SERIES |
| C802  | 067G215D4714KV   | E.C 105°C CAP 470UF M 25V ED SERIES |
| C918  | 067G215D6814KV   | CAP 105°C 680UF M 25V               |
| C917  | 067G215D6814KV   | CAP 105°C 680UF M 25V               |
| C940  | 067G215S1023KV   | 105°C 1000UF M 16V                  |
| C939  | 067G215S1023KV   | 105°C 1000UF M 16V                  |
| C915  | 067G215S4713KV   | EC 105°C CAP 470UF M 16V            |
| L902  | 073G 174 65 H    | LINE FILTER                         |
| T801  | 080GL17T 40 H    | XFMR INVERTER DADON                 |
| CN901 | 087G 501 32 S    | AC SOCKET                           |
| CN101 | 088G 30214K DC   | PHONE JACK 5PIN                     |
| BD901 | 093G 50460 28    | BRIDGE DIODE KBP208G LITEON         |
| CN902 | 095G801410E 51   | WIRE HARNESS                        |
|       | 705GQ7 57001     | Q901 ASS'Y                          |
|       | 705GQ7 93001     | D905 ASS'Y                          |
|       | 705GQ761006      | R908 ASS'Y                          |

|      |                            |                                |
|------|----------------------------|--------------------------------|
|      | 705GQ793040                | D906 ASS'Y                     |
|      | PW721HE4SMT                | POWER BOARD FOR SMT            |
| HS6  | Q90G6295 3                 | HEAT SINK                      |
| L901 | S73G17476V                 | LINE FILTER ASS'Y              |
| L903 | S73G25391V1                | CHOKE COIL ASS'Y               |
| L904 | S73G25391V1                | CHOKE COIL ASS'Y               |
| T901 | S80GL17T33V                | TRANSFORMER ASS'Y              |
|      | 089F80002053AG             | 1.0*30*3-205-3-0.65*0.05       |
|      | 033F303FH10BK3             | F1010HA-30P-BK                 |
|      | 033F303FJSHK30             | 1.0S-19-30A                    |
| U402 | 056G 158501                | AZ431AN-A-E1                   |
| U501 | 056G 562701                | SCALER IC RTD2025L QFN-48      |
| U201 | 056G 585 4A                | AP1117E33LA                    |
| U401 | 056G1125701 X(WA8RWR7HAQ1) | IC MCU RTD2120L-LF REALTEK     |
| U403 | 056G1133 56                | M24C16-WMN6TP                  |
| Q202 | 057G 417 4                 | PMBS3904/PHILIPS-SMT(04)       |
| Q401 | 057G 417 4                 | PMBS3904/PHILIPS-SMT(04)       |
| Q204 | 057G 417 6                 | PMBS3906/PHILIPS-SMT(06)       |
| Q205 | 057G 417 6                 | PMBS3906/PHILIPS-SMT(06)       |
| Q602 | 057G 417 6                 | PMBS3906/PHILIPS-SMT(06)       |
| Q501 | 057G 417 22 T              | TRA KN2907AS -60V/-0.6A SOT-23 |
| Q502 | 057G 417 22 T              | TRA KN2907AS -60V/-0.6A SOT-23 |
| Q601 | 057G 763 1                 | A03401 SOT23 BY AOS(A1)        |
| R302 | 061G0402000                | RST CHIPR 0 OHM +-5% 1/16W     |
| R429 | 061G0402000                | RST CHIPR 0 OHM +-5% 1/16W     |
| R315 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R313 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R312 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R311 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R309 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R308 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R306 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R303 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R301 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R408 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R409 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R410 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R420 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R422 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |
| R430 | 061G0402101                | RST CHIPR 100 OHM +-5% 1/16W   |

|      |             |                               |
|------|-------------|-------------------------------|
| R432 | 061G0402101 | RST CHIPR 100 OHM +-5% 1/16W  |
| R433 | 061G0402101 | RST CHIPR 100 OHM +-5% 1/16W  |
| R434 | 061G0402101 | RST CHIPR 100 OHM +-5% 1/16W  |
| R435 | 061G0402101 | RST CHIPR 100 OHM +-5% 1/16W  |
| R454 | 061G0402102 | RST CHIPR 1 KOHM +-5% 1/16W   |
| R453 | 061G0402102 | RST CHIPR 1 KOHM +-5% 1/16W   |
| R424 | 061G0402102 | RST CHIPR 1 KOHM +-5% 1/16W   |
| R423 | 061G0402102 | RST CHIPR 1 KOHM +-5% 1/16W   |
| R402 | 061G0402102 | RST CHIPR 1 KOHM +-5% 1/16W   |
| R601 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R438 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R436 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R425 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R416 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R404 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R213 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R210 | 061G0402103 | RST CHIPR 10 KOHM +-5% 1/16W  |
| R207 | 061G0402121 | RST CHIP 120R 1/16W 5%        |
| R208 | 061G0402121 | RST CHIP 120R 1/16W 5%        |
| R201 | 061G0402201 | RST CHIP 200R 1/16W 5%        |
| R426 | 061G0402220 | RST CHIPR 22 OHM +-5% 1/16W   |
| R428 | 061G0402220 | RST CHIPR 22 OHM +-5% 1/16W   |
| R304 | 061G0402222 | RST CHIPR 2.2 KOHM +-5% 1/16W |
| R305 | 061G0402222 | RST CHIPR 2.2 KOHM +-5% 1/16W |
| R437 | 061G0402392 | RST CHIP 3.9K 1/16W 5%        |
| R403 | 061G0402392 | RST CHIP 3.9K 1/16W 5%        |
| R401 | 061G0402392 | RST CHIP 3.9K 1/16W 5%        |
| R202 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R405 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R406 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R407 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R411 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R412 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R413 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R414 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R451 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R605 | 061G0402472 | RST CHIPR 4.7 KOHM +-5% 1/16W |
| R604 | 061G0402473 | RST CHIPR 47 KOHM +-5% 1/16W  |
| R415 | 061G0402682 | RST CHIP 6K8 1/16W 5%         |
| R431 | 061G0402682 | RST CHIP 6K8 1/16W 5%         |

|       |                |                              |
|-------|----------------|------------------------------|
| R439  | 061G0402682    | RST CHIP 6K8 1/16W 5%        |
| R307  | 061G0402750    | RST CHIPR 75 OHM +-5% 1/16W  |
| R310  | 061G0402750    | RST CHIPR 75 OHM +-5% 1/16W  |
| R314  | 061G0402750    | RST CHIPR 75 OHM +-5% 1/16W  |
| FB501 | 061G0603000    | RST CHIPR 0 OHM +-5% 1/10W   |
| R602  | 061G0805331    | RST CHIPR 330 OHM +-5% 1/8W  |
| C401  | 065G0402100 31 | CAP 0402 10PF J 50V NPO      |
| C411  | 065G0402100 31 | CAP 0402 10PF J 50V NPO      |
| C602  | 065G0402103 22 | CHIP 0.01UF 25V X7R          |
| C201  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C204  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C205  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C206  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C209  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C210  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C315  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C403  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C406  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C410  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C501  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C503  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C506  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C507  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C603  | 065G0402104 15 | MLCC 0402 0.1UF K 16V X5R    |
| C412  | 065G0402105 A5 | CAP 0402 1UF K 10V X5R       |
| C402  | 065G0402105 A5 | CAP 0402 1UF K 10V X5R       |
| C404  | 065G0402224 17 | CAP CER 0.22UF -20%-80%      |
| C302  | 065G0402330 31 | CHIP CAP 0402 33PF J 50V NPO |
| C303  | 065G0402330 31 | CHIP CAP 0402 33PF J 50V NPO |
| C311  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C309  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C307  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C306  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C304  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C301  | 065G0402473 12 | CHIP 0.047UF 16V X7R         |
| C305  | 065G0402509 31 | CHIP 5PF 50V NPO             |
| C308  | 065G0402509 31 | CHIP 5PF 50V NPO             |
| C310  | 065G0402509 31 | CHIP 5PF 50V NPO             |
| FB201 | 071G 56K121 M  | CHIP BEAD                    |
| FB502 | 071G 56K121 M  | CHIP BEAD                    |

|       |                  |                                      |
|-------|------------------|--------------------------------------|
| FB503 | 071G 56K121 M    | CHIP BEAD                            |
| FB601 | 071G 56K121 M    | CHIP BEAD                            |
| FB301 | 071G 59K190 B    | 19 OHM BEAD                          |
| FB302 | 071G 59K190 B    | 19 OHM BEAD                          |
| FB303 | 071G 59K190 B    | 19 OHM BEAD                          |
| D301  | 093G 64 33       | DIO SIG SM BAV99 (PHSE)R             |
| D302  | 093G 64 33       | DIO SIG SM BAV99 (PHSE)R             |
| D303  | 093G 64 33       | DIO SIG SM BAV99 (PHSE)R             |
| D402  | 093G 64 42 PP    | BAV70 SOT-23                         |
| ZD307 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
| ZD305 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
| ZD304 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
| ZD303 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
| ZD302 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
| ZD301 | 093G 39S 34 T    | UDZSNP5.6B ROHM                      |
|       | 715G2498 2 K     | MAIN BOARD PCB                       |
| Q002  | 057G 417 4       | PMBS3904/PHILIPS-SMT(04)             |
| Q001  | 057G 417 4       | PMBS3904/PHILIPS-SMT(04)             |
| R002  | 061G0603000      | RST CHIPR 0 OHM +-5% 1/10W           |
| R004  | 061G0603102      | RST CHIPR 1K OHM +-5% 1/10W          |
| R003  | 061G0603202      | RST CHIPR 2 KOHM +-5% 1/10W          |
| R001  | 061G0603202      | RST CHIPR 2 KOHM +-5% 1/10W          |
| R005  | 061G0603472      | RST CHIPR 4.7K OHM +-5% 1/10W        |
| R006  | 061G0603472      | RST CHIPR 4.7K OHM +-5% 1/10W        |
| SW002 | 077G 605 1 AL GP | SMD SWITCH                           |
| SW003 | 077G 605 1 AL GP | SMD SWITCH                           |
| SW004 | 077G 605 1 AL GP | SMD SWITCH                           |
| SW001 | 077G 605 1 AL GP | SMD SWITCH                           |
| ZD006 | 093G 64 59 SU    | ESD MLVS0603M04 0603                 |
| ZD007 | 093G 64 59 SU    | ESD MLVS0603M04 0603                 |
| ZD008 | 093G 64 59 SU    | ESD MLVS0603M04 0603                 |
|       | 715G2834 1       | KEY BOARD PCB                        |
| Q901  | 057G 724 11      | STP9NK65ZFP                          |
| HS3   | 090G6263 1       | HEAT SINK                            |
|       | 0M1G1730 8120    | SCREW                                |
| HS4   | 090G6084 1 GP    | HEAT SINK                            |
| D905  | 093G 60257       | DIODE SB1060FCT ITO-220AB BY PAN JIT |
|       | 0M1G1730 8120    | SCREW                                |
| R908  | 061G152M10458F   | 100K OHM 5% 2W                       |
|       | 096G 29 8        | TUBE                                 |

|       |                |                              |
|-------|----------------|------------------------------|
| D906  | 093G 60267     | SP10100                      |
|       | 0M1G1730 8120  | SCREW                        |
| HS2   | Q90G6263 2     | HEAT SINK                    |
| IC801 | 056G 379 22    | IC TL494IDR SOIC-16          |
| IC901 | 056G 379 76    | IC LD7552BPS SOP-8           |
| Q801  | 057G 417 4     | PMBS3904/PHILIPS-SMT(04)     |
| Q806  | 057G 417 4     | PMBS3904/PHILIPS-SMT(04)     |
| Q811  | 057G 417 4     | PMBS3904/PHILIPS-SMT(04)     |
| Q903  | 057G 417 4     | PMBS3904/PHILIPS-SMT(04)     |
| Q804  | 057G 417 6     | PMBS3906/PHILIPS-SMT(06)     |
| Q812  | 057G 417 6     | PMBS3906/PHILIPS-SMT(06)     |
| Q809  | 057G 759 2     | RK7002                       |
| Q810  | 057G 759 2     | RK7002                       |
| Q808  | 057G 760 4B    | PDTA144WK SOT346             |
| Q805  | 057G 760 5B    | PDTC144WK SOT346             |
| Q802  | 057G 763 14    | AM9945N                      |
| R823  | 061G0603000    | RST CHIPR 0 OHM +-5% 1/10W   |
| R801  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R808  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R814  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R818  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R824  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R827  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R926  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R942  | 061G0603100 1F | RST CHIPR 1 KOHM +-1% 1/10W  |
| R807  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R817  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R820  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R828  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R832  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R863  | 061G0603100 2F | RST CHIPR 10K OHM +-1% 1/10W |
| R813  | 061G0603102    | RST CHIPR 1K OHM +-5% 1/10W  |
| R105  | 061G0603103    | RST CHIPR 10 KOHM +-5% 1/10W |
| R104  | 061G0603103    | RST CHIPR 10 KOHM +-5% 1/10W |
| R103  | 061G0603103    | RST CHIPR 10 KOHM +-5% 1/10W |
| R102  | 061G0603103    | RST CHIPR 10 KOHM +-5% 1/10W |
| R101  | 061G0603103    | RST CHIPR 10 KOHM +-5% 1/10W |
| R835  | 061G0603105    | RST CHIPR 1M OHM +-5% 1/10W  |
| R862  | 061G0603105    | RST CHIPR 1M OHM +-5% 1/10W  |
| R803  | 061G0603106    | RST CHIPR 10M OHM +-5% 1/10W |



|       |                |                                |
|-------|----------------|--------------------------------|
| R930  | 061G0603243 1F | RST CHIPR 2.43K OHM +-1% 1/10W |
| R940  | 061G0603330 2F | RST CHIPR 33K OHM +-1% 1/10W   |
| R927  | 061G0603360 1F | RST CHIPR 3.6K OHM +-1% 1/10W  |
| R811  | 061G0603472    | RST CHIPR 4.7K OHM +-5% 1/10W  |
| R851  | 061G0603510 1F | RST CHIPR 5.1K OHM +-1% 1/10W  |
| R107  | 061G0603512    | RST CHIPR 5.1 KOHM +-5% 1/10W  |
| R106  | 061G0603512    | RST CHIPR 5.1 KOHM +-5% 1/10W  |
| R841  | 061G0603680 2F | RST CHIPR 68K OHM +-1% 1/10W   |
| R853  | 061G0603683    | RST CHIPR 68K OHM +-5% 1/10W   |
| R802  | 061G0603910 2F | RST CHIPR 91K OHM +-1% 1/10W   |
| R857  | 061G0805000    | RST CHIPR 0 OHM +-5% 1/8W      |
| R831  | 061G0805100 1F | RST CHIPR 1K OHM +-1% 1/8W     |
| R915  | 061G0805100 3F | RST CHIPR 100KOHM +-1% 1/8W    |
| R804  | 061G0805101    | RST CHIPR 100 OHM +-5% 1/8W    |
| R826  | 061G0805102    | RST CHIPR 1K OHM +-5% 1/8W     |
| R925  | 061G0805102    | RST CHIPR 1K OHM +-5% 1/8W     |
| R943  | 061G0805102    | RST CHIPR 1K OHM +-5% 1/8W     |
| R938  | 061G0805103    | RST CHIPR 10K OHM +-5% 1/8W    |
| R924  | 061G0805151    | RST CHIPR 150 OHM +-5% 1/8W    |
| R850  | 061G0805220    | RST CHIPR 22 OHM +-1% 1/8W     |
| R839  | 061G0805220    | RST CHIPR 22 OHM +-1% 1/8W     |
| R829  | 061G0805220    | RST CHIPR 22 OHM +-1% 1/8W     |
| R825  | 061G0805220    | RST CHIPR 22 OHM +-1% 1/8W     |
| R837  | 061G0805473    | RST CHIPR 47K OHM +-5% 1/8W    |
| R810  | 061G0805510 2F | RST CHIPR 51K OHM +-1% 1/8W    |
| F801  | 061G1206000    | RST CHIPR 0 OHM +-5% 1/4W      |
| JR801 | 061G1206000    | RST CHIPR 0 OHM +-5% 1/4W      |
| JR901 | 061G1206000    | RST CHIPR 0 OHM +-5% 1/4W      |
| JR902 | 061G1206000    | RST CHIPR 0 OHM +-5% 1/4W      |
| R910  | 061G1206100    | RST CHIPR 10 OHM +-5% 1/4W     |
| R821  | 061G1206100 1F | RST CHIPR 1K OHM +-1% 1/4W     |
| R822  | 061G1206100 1F | RST CHIPR 1K OHM +-1% 1/4W     |
| R962  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R961  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R935  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R920  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R919  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R918  | 061G1206101    | RST CHIPR 100 OHM +-5% 1/4W    |
| R941  | 061G1206102    | RST CHIPR 1K OHM +-5% 1/4W     |
| R944  | 061G1206102    | RST CHIPR 1K OHM +-5% 1/4W     |

|      |                |                                |
|------|----------------|--------------------------------|
| R945 | 061G1206102    | RST CHIPR 1K OHM +-5% 1/4W     |
| R946 | 061G1206102    | RST CHIPR 1K OHM +-5% 1/4W     |
| R108 | 061G1206109    | RST CHIPR 1 OHM +-5% 1/4W      |
| R912 | 061G1206221    | RST CHIPR 220 OHM +-5% 1/4W    |
| R904 | 061G1206304    | RST CHIPR 300K OHM +-5% 1/4W   |
| R932 | 061G1206304    | RST CHIPR 300K OHM +-5% 1/4W   |
| R933 | 061G1206304    | RST CHIPR 300K OHM +-5% 1/4W   |
| R855 | 061G1206330    | RST CHIPR 33 OHM +-5% 1/4W     |
| R856 | 061G1206330    | RST CHIPR 33 OHM +-5% 1/4W     |
| R909 | 061G1206519    | RST CHIPR 5.1 OHM +-5% 1/4W    |
| R900 | 061G1206684    | RST CHIPR 680K OHM +-5% 1/4W   |
| R901 | 061G1206684    | RST CHIPR 680K OHM +-5% 1/4W   |
| R902 | 061G1206684    | RST CHIPR 680K OHM +-5% 1/4W   |
| C110 | 065G0603101 31 | CER1 0603 NP0 50V 100P PM5 R   |
| C111 | 065G0603101 31 | CER1 0603 NP0 50V 100P PM5 R   |
| C842 | 065G0603103 32 | CAP CHIP 0603 0.01UF K 50V X7R |
| C807 | 065G0603104 22 | CAP CHIP 0603 0.1UF K 25V X7R  |
| C821 | 065G0603104 22 | CAP CHIP 0603 0.1UF K 25V X7R  |
| C825 | 065G0603104 22 | CAP CHIP 0603 0.1UF K 25V X7R  |
| C834 | 065G0603104 22 | CAP CHIP 0603 0.1UF K 25V X7R  |
| C819 | 065G0603222 22 | CHIP 2200PF 25V X7R            |
| C823 | 065G0603222 22 | CHIP 2200PF 25V X7R            |
| C101 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C102 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C103 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C105 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C106 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C107 | 065G0603474 12 | MLCC 0603 0.47UF K 16V X7R     |
| C932 | 065G0805102 31 | CAP CHIP 0805 1000PF J 50V NPO |
| C839 | 065G0805102 31 | CAP CHIP 0805 1000PF J 50V NPO |
| C838 | 065G0805102 31 | CAP CHIP 0805 1000PF J 50V NPO |
| C928 | 065G0805103 32 | CAP CHIP 0805 10NF K 50V X7R   |
| C824 | 065G0805104 32 | CAP CHIP 0805 0.1UF K 50V X7R  |
| C905 | 065G0805104 32 | CAP CHIP 0805 0.1UF K 50V X7R  |
| C916 | 065G0805104 32 | CAP CHIP 0805 0.1UF K 50V X7R  |
| C924 | 065G0805104 32 | CAP CHIP 0805 0.1UF K 50V X7R  |
| C930 | 065G0805104 32 | CAP CHIP 0805 0.1UF K 50V X7R  |
| C845 | 065G0805105 22 | CAP CHIP 0805 1UF K 25V X7R    |
| C109 | 065G0805105 22 | CAP CHIP 0805 1UF K 25V X7R    |
| C822 | 065G0805105 22 | CAP CHIP 0805 1UF K 25V X7R    |

|       |                  |                                  |
|-------|------------------|----------------------------------|
| C820  | 065G0805221 31   | CAP CHIP 0805 220PF J 50V NPO    |
| C909  | 065G0805471 21   | CAP CHIP 0805 470PF J 25V NPO    |
| C912  | 065G1206102 72   | CAP CHIP 1206 1000PF K 500V X7R  |
| C929  | 065G1206102 72   | CAP CHIP 1206 1000PF K 500V X7R  |
| D805  | 093G 6432S       | IN4148W                          |
| D806  | 093G 6432S       | IN4148W                          |
| D807  | 093G 6432S       | IN4148W                          |
| D812  | 093G 6432S       | IN4148W                          |
| D814  | 093G 6432S       | IN4148W                          |
| D817  | 093G 6432S       | IN4148W                          |
| D903  | 093G 6432S       | IN4148W                          |
| D915  | 093G 6432S       | IN4148W                          |
| D916  | 093G 6432S       | IN4148W                          |
| D813  | 093G 6432S       | IN4148W                          |
| D801  | 093G 6433P       | BAV99                            |
| D802  | 093G 6433P       | BAV99                            |
| ZD801 | 093G 39S 10 T    | RLZ6.8B BY ROHM                  |
| ZD906 | 093G 39S 20 T    | RLZ22B LLDS                      |
| ZD922 | 093G 39S 25 T    | RLZ5.1B LLDS                     |
| ZD902 | 093G 39S 40 T    | RLZ 13B LLDS                     |
| ZD921 | 093G 39S 40 T    | RLZ 13B LLDS                     |
| ZD905 | 093G 39S 44 T    | RLZ18B LLDS                      |
| CN901 | 006G 31500       | EYELET                           |
| NR901 | 006G 31502       | 1.5MM RIVET                      |
| T901  | 006G 31502       | 1.5MM RIVET                      |
| IC904 | 056G 158 10 T    | IC AZ431AZ-AE1 TO-92 BY AAC      |
| C906  | 065G 2K152 1T GP | CERAMIC CAP                      |
| C104  | 067G215Y1014KT   | EC CAP.105                       |
| C108  | 067G215Y1097NT   | EC 1.0UF 50V KY50VB1M-TP5 5*11MM |
| C908  | 067G215Y2207KT   | CAP 105°C 22UF M 50V KINGNICH    |
| FB801 | 071G 55 9 T      | FERRITE BEAD                     |
| FB102 | 071G 55 9 T      | FERRITE BEAD                     |
| FB901 | 071G 55 29       | FERRITE BEAD                     |
| F901  | 084G 55 7W       | FUSE 3.15A 250V WICKMANN         |
| F903  | 084G 56 4W       | FUSE 4.0A 250V                   |
| D900  | 093G 6026T52T    | RECTIFIER DIODE FR107            |
| D901  | 093G 6038T52T    | FR103                            |
|       | 715G2545 2       | POWER BOARD PCB                  |

**12. Different Parts List**

| Diversity of T77HRDNQBWA16N Compared with T77HRDNQBWA15N |              |                      |
|--|--------------|----------------------|
| Location   | Location     | Location             |
|  | 007G 5 1 A   | COMPOUND PALLET      |
|  | 007G 5 10 1  | COMPOUND PALLET      |
|  | CBPC8SRDA1Q3 | MAIN BOARD           |
|  | KEPC8QK7     | KEPC BOARD           |
|  | Q44G 10 1    | BIG CARTON FOR IC    |
|  | Q44G 10 2    | CORNER PAPER FOR CKD |

| Diversity of T77HRDNQBWA25N Compared with T77HRDNQBWA15N |                |               |
|--|----------------|---------------|
| Location   | Location       | Location      |
|  | Q40G 17N61585A | RATING LABEL  |
|  | Q41G780A61566A | WARRANTY CARD |

| Diversity of T77HRDNQBWA26N Compared with T77HRDNQBWA15N |                |                      |
|--|----------------|----------------------|
| Location   | Location       | Location             |
|  | 007G 5 1 A     | COMPOUND PALLET      |
|  | 007G 5 10 1    | COMPOUND PALLET      |
|  | CBPC8SRDA1Q3   | MAIN BOARD           |
|  | KEPC8QK7       | KEPC BOARD           |
|  | Q40G 17N61585A | RATING LABEL         |
|  | Q41G780A61566A | WARRANTY CARD        |
|  | Q44G 10 1      | BIG CARTON FOR IC    |
|  | Q44G 10 2      | CORNER PAPER FOR CKD |